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International Maritime Conference

The International Maritime Committee held its seventh annual conference in Liverpool last week, the meetings commencing on Wednesday, June 14, and continuing during the three following days. The object of this Committee is to promote the unification of maritime law by the removal of the divergencies between the different national systems of law which inconvenience and inflict hardship on traders. It seeks to attain this end through the instrumentality of the National Association, whose duty it is to ascertain, organize and guide public opinion in the respective countries with a view to the promotion of legislation. The members of the conference numbered upwards of 60, representing Great Britain, Austria, Belgium, Denmark, France, United States, Germany, Hungary, Italy, Japan, Norway and Sweden, and in addition to these there were some 30 or 40 legal and shipping authorities specially invited to contribute speeches to the debates. As but a brief resume of the four days' proceedings will perhaps only be of interest to readers of *The Marine Review*, it may be stated at the outset that Mr. Justice Kennedy was elected president of the Conference, in succession to M. Beernaert (minister of State and ex-Premier of Belgium). Discussion was then entered upon the draft treaty relating to the limitation of shipowners' liability, also on the questions of law of collision and the law of salvage. The following are the draft conventions which have been previously considered by the Committee, and were approved by this year's Conference:

AS TO COLLISION AT SEA.

Article 1.—The indemnity for damages caused by collision occurring between sea-going ships, or between sea-going ships and ships employed in internal navigation, is submitted to the provisions of the present convention, without regard as to the place where the collision took place.

Article 2.—If the collision is without fault or is due to inevitable accident, or the cause cannot be determined, the losses are to be borne by the persons who have suffered them. This provision is applicable even in the case where one of the vessels was at anchor at the time of the accident.

Article 3.—If the collision has been caused by fault, the ship which committed the fault is bound to make good the damage.

Article 4.—In the case where both ships have been in fault,

the liability of each of the ships is proportionate to the gravity of its fault. The damages caused, either to the ships, or to their cargoes, or to the crews, passengers or other persons on board, are apportioned between the ships, in the said proportion, without their being jointly liable toward third parties.

Article 5.—The circumstance that the collision has been brought by the fault of a pilot whose employment was compulsory, does not prevent the ship being responsible as established by the provisions of the present convention.

Article 6.—The action for indemnity for damages suffered by collision is not subject either to a protest or to any other special formality.

Article 7.—The action is barred by prescription two years after the event. The national laws regulate all questions relating to interruption and suspension of the prescription.

Article 8.—Colliding ships are bound to assist each other as far as circumstances permit. The national laws determine the penalties to which those breaking the regulations are liable. The owner of the ship is not responsible by reason of breach of the preceding regulation by the captain or crew, and the neglect to afford assistance does not entail a presumption of fault from the point of view of pecuniary liability for the collision.

Article 9.—Subject to any further agreements as to the limitation of shipowners' liability, it is understood that the present provisions do not alter in any way the nature and the extent of that liability as regulated in each country.

Article 10.—The present convention does not apply to men-of-war.

Article 11.—The states which have not signed the present convention are admitted to adhere to the same on their request. This adhesion shall be notified by the diplomatic way to the Government . . . and by the latter to each of the other Governments; it shall come into effect one month after the notification has been made by the Government.

Article 12.—The present convention shall be ratified and the ratifications shall be deposited at . . . as soon as possible, and at latest within the period of one year from the date of the signature. One month after the closing of the proces-verbal of deposit of the ratifications, the convention shall come in force between the states which shall have ratified it.

AS TO MARINE ASSISTANCE AND SALVAGE.

Article 1.—The assistance and the salvage of all sea vessels are submitted to the provisions of the present convention without any distinction being drawn between these two kinds of services and without regard to the place where they have been rendered.

Article 2.—As far as he can do so without danger, either to his ship or his crew or his passengers, every captain is bound to render assistance to every person, even a foreigner or enemy, whom he finds at sea in danger of being lost, and who requires assistance. Measures to insure the execution of this provision are reserved to the national laws. The owner of the ship is not liable for infringements of the above provision.

Article 3.—All services of assistance or of salvage having had a useful result give the right to an equitable remuneration. Nothing is due if the services rendered are without useful result. In any case the sum to be paid cannot exceed the value of the salvaged property.

Article 4.—Persons who have taken part in the work of rendering assistance against the express prohibition of the captain of the ship assisted are barred from all right to remuneration.

Article 5.—The tug has only the right to remuneration for assistance or salvage rendered to the ship towed by her or to her cargo, if she has rendered exceptional services, which cannot be considered as the fulfilment of her contract of towage.

Article 6.—The crew of a ship in peril have no right to any remuneration, even for extraordinary services, as long as they can be considered as the fulfilment of the contract of engagement.

Article 7.—The remuneration is due, even when the assistance or salvage has been rendered between vessels belonging to the same owner.

Article 8.—The amount of the remuneration is fixed by the agreement between the parties, and if there is no agreement, by the judge or competent authority.

Article 9.—Every contract for assistance or salvage made in time of peril, can be modified by the judge if he considers that the conditions agreed are not equitable for either one or the other party. Any person interested may make the request for modification.

Article 10.—In default of express agreement, the remuneration fixed by the courts or other competent authorities according to the circumstances, taking into consideration: principally, the success obtained, the efforts and merits of those who have rendered assistance, the danger incurred by the assisted vessel, by her cargo, by the salvors and by the assisting vessel, the expenses and damages incurred by the assisting vessel, taking account, at the end of the service, of her particular occupation; secondly, the value of the salvaged property and of the assisting vessel.

Article 11.—The action for payment of remuneration or for modification of the agreement for assistance or salvage, is prescribed after two years.

The national laws regulate all which relates to the interruption and the suspension of the prescription.

Article 12.—The present provisions do not invalidate the prescriptions of the national laws relating to the jurisdiction of the authorities judicial or administrative as to salvage or assistance and the remuneration for salvage of human lives.

Article 13.—The present convention does not apply to men-of-war.

Article 14.—The states which have not signed the present convention are admitted to adhere to the same on their request. This adhesion shall be notified by the diplomatic way to the Government . . . and by the latter to each of the other Governments; it shall come into effect one month after the notification has been made by the Government . . .

Article 15.—The present convention shall be ratified and the ratifications of it shall be deposited at . . . as soon as possible, and at latest within the period of one year from the date of the signature. One month after the closing of the proces-verbal of deposit of the ratifications, the convention shall come in force between the states which shall have ratified it.

Article 16.—In case either of the contracting parties denounce the present convention, this denunciation shall only have effect one year from the day on which the notification be made to the Government of . . . and the convention shall remain in force between the other contracting Governments. In witness whereof, the plenipotentiaries of the respective states have signed and sealed the present convention.

These draft treaties unanimously approved by the other countries represented were strongly urged as desirable of adoption by the British government, which has hitherto not moved in the matter. The resolution endorsing these treaties read as follows: That the representatives of the British ship-owners, merchants and underwriters attending this conference are of opinion that in the interests of the International Commerce of this country, it is of the first importance that His Majesty's government should be represented at the International Diplomatic Conference convened at the instance of Government of Belgium, to consider the draft codes relating to collisions and salvage, and that the secretaries are requested to submit a copy of this resolution to His Majesty's government.

SHIPOWNERS' LIABILITY.

The next discussion was based upon a draft treaty on the limitation of the shipowners' liability of which the following is the text:

ARTICLE I.

When the owner of a ship is held responsible according to the law of the country for the acts of the master and crew or for the engagements entered into by the master in virtue of his legal capacity, his liability is for each voyage limited:

(a) To the ship or its value at the end of the voyage, at the option of the owner.

(b) To the net freight for the voyage until its termination.

(c) To the indemnities due to the owner for general average, collision or other damage suffered by the ship during the voyage, subject to deduction of the expenses incurred in putting the ship in a fit state to complete the voyage.

The right of the creditors does not include the claim of the owner against the insurer.

By net freight is meant the gross freight and passage money even if paid in advance, deduction being made of the charges which are proper to the same.

The voyage will be considered ended after final discharge of the goods and passengers happening to be on board the ship and shown on the manifest at the moment when the obligation has arisen and in case of successive obligations after final discharge of the whole of the goods and passengers happening to be on board at the moment both of the one and of the other event.

If the ship carries neither goods nor passengers the voyage will be considered ended at the first port it puts into or at the particular port where it happens to be.

ARTICLE II.

If the owner elects for the abandonment of the ship and does not carry this into effect until some time after the end of the voyage, he is only freed up to the amount of the value of the ship at the moment of the abandonment and he remains bound for the difference between this value and that which the ship had at the end of the voyage.

ARTICLE III.

In the case provided for in Article II. and to provide for the case where the owner elects so far as concerns the ship, for the payment of its value at the end of the voyage, the valuation may at every time after the end of the voyage be judicially fixed by proceedings taken after due notice to the other side at the demand of the party who is the most diligent.

ARTICLE IV.

The owner has the right to substitute for the modes of obtaining freedom from liability provided in Article I., payment of an indemnity limited for each voyage to 8*l.* per ton of the gross tonnage of his ship.

ARTICLE V.

If there exists a priority of lien upon the ship or upon the freight in favor of creditors in respect of whom limitation of liability is not admitted, the owner of the ship will be personally bound to make up in specie to the extent of the sums first collected by such creditors, the amount forming the limit of his liability.

ARTICLE VI.

The limitation of liability determined according to the preceding articles will be applicable to contracts concluded even by the owner of the ship so far as their execution lies within the legal duties of the master without his having cause to distinguish if the breach of these contracts is due to a member of the crew or not, the case of personal fault of the owner alone excepted. It applies also to damage caused to dykes, quays, and other fixed objects, as well as to the removal of wrecks. It is not admitted for the wages of master and crew.

ARTICLE VII.

When, according to the laws applicable, the limitation of liability for damage to property is different from that for personal injury, the present treaty shall only have effect so far as concerns damage to property.

In the discussion which took place extending over two days the following amendments were moved and carried:

To Article I.:

"Where any damage or loss (1) is caused to any goods, merchandise, or any other things whatsoever on board of the ship, or (2) is caused by reason of the improper navigation of such ship to any other vessel or to any goods, merchandise, or other things whatsoever on board any other vessel, or (3) is caused to dykes, quays, or other fixed objects, the liability of the owner for these acts is for each voyage limited." The effect of this alteration will be to bring into the limitation of liability all damages which might be done by a ship either to her own cargo or to other ships and their cargoes, or to works on land, and to exclude from the limitation of liability debts incurred by the master in connection with contracts entered into for supply of provisions and stores, coals or other matters depending upon contract.

To add to Article III.:

"Providing when a vessel has been arrested in consequence of such damage, and was allowed to complete her voyage, at the end of that voyage her value should be taken as it was on the day of her arrest."

To amend Article VI.: "that the limitation of liability is not applicable to cases of personal fault of the owner, and it is not admitted to the wages of the masters and crews."

It was then proposed and unanimously agreed to "that the draft as now amended and subject to revision in accordance with the preceding resolutions be approved as an International Treaty, placing the shipowners and merchants of all countries in the same position in regard to the extent of the shipowners' liability."

The latter part of the conference meeting was devoted to a discussion on "mortgages and liens on ships," the draft code

relating to the matter being ultimately referred to a sub-committee, at the Saturday morning sitting. The business of the conference was subsequently brought to a close with expressions of thanks to all who had in any way assisted in making the assembly a success.

SIR WILLIAM WHITE ON SUBMARINE NAVIGATION

Sir William White, late chief constructor to the British Admiralty lecturing in London on "Submarine Navigation" referred at length to the accident on the submarine A 8. He remarked that:

"So far as can be seen at present, it appears as if the gasoline engine, which in the case of the A 5 was the cause of the trouble, may have originated the accident which has proved so terribly destructive.

"But I think the lesson to be learnt is simply this: The Navy never fails to meet all risks. The officers and men of the Navy did not draw back from serving in vessels of this type because of what happened in A 5. I do not think there would be any difficulty in finding officers and men to serve in the other vessels of that class.

"Let us remember that it is impossible in warfare to gain any advantage, such as is to be gained by the use of submarines, without taking the risks; and let us remember that the men who take those risks willingly deserve the fairest consideration."

With a cigar-shaped model before him of one of the latest British submarines, and the aid of lantern views, Sir William was able to treat in an exceedingly interesting way of the problem of under-water navigation. He pointed out the advantage which the British Navy held in having acquired the inventive skill of Mr. Holland, and he declared unhesitatingly that our latest submarines would bear comparison with any fleet.

For five years a continuous policy had been followed in the development of British submarines, all of which have been constructed at Barrow-in-Furness. Incidentally, Sir William complained that while information of an official and authoritative character relating to submarines was freely published in France and the United States, the British government adopted in this matter a policy of secrecy that was most unreasonable and unnecessary. "I cannot for the life of me understand," he declared, "what advantage there can be in keeping back from the public, who pay the bill, the dimensions and the cost of those vessels. Yet it has for years been the rule to give in the Navy estimates such information regarding all other classes of warships."

Sir William drew attention to the small reserve of buoyancy which a submarine possessed when in the diving condition, amounting to only 300 lb. (equivalent to thirty gallons of water) in a vessel of 120 tons total weight. This was obviously a narrow margin of safety, and necessitated careful and skilful management on the part of those in charge. A small change in the density of the water would speedily obliterate the reserve of buoyancy and cause the vessel to sink if water were not expelled from the tanks.

These reflections led Sir William to relate an adventure which he had on one occasion when experimenting with a submarine in Tilbury Docks. By some means the reserve of buoyancy suddenly disappeared.

"In less than two seconds," he said, "we were at the bottom of the docks, with forty feet of water above us. We had gone down and plunged right into the bottom, one portion of the vessel being buried deep in the clay."

At this the audience laughed right heartily. "It sounds very funny," commented Sir William, "but it was not an agreeable thing. We spent three quarters of an hour below, and it looked as if we were never coming up again."

Some authorities, Sir William remarked, who had given great attention to the construction of submarines had been opposed to the adoption of high speeds under water, because of the danger that vessels when diving quickly might reach much greater depths than were desirable. Cases were on record where modern submarines in the hands of skilled crews had accidentally reached the bottom in great depths, and had experienced no easy task in regaining the surface. It was, therefore, probable that while speeds at the surface would be increased, under-water speeds would not grow correspondingly.

Various considerations had led many persons to favor the construction of so-called surface-boats rather than submarines. They would resemble submersibles in many respects, but the power of diving would be surrendered, although they would be so constructed that by admitting water by special tanks they would be deeply immersed, and show only a small target above the surface when making an attack. There would be no necessity in such surface vessels to use electric motors or storage batteries, since internal combustion engines would be used under all circumstances.

It was extraordinary, said Sir William, in conclusion, what attraction submarine designs had for amateurs. He had seen such a collection of suggestions in the course of his service at the Admiralty as would make a "most valuable" book.

A SCOUT'S TRIALS

The results of the steam trials of the *Skirmisher*, the second of the two scouts designed and built by Vickers, Sons, & Maxim, Limited, Barrow-in-Furness, for the British Admiralty, clearly confirm the satisfactory performance of the *Sentinel*, her predecessor, now in commission. The Vickers scouts, says the London correspondent of the "Glasgow Herald," are somewhat shorter and broader in the beam than those of other firms, and they have engines of 17,000 I. H. P. to give the guaranteed speed of 25 knots. The *Skirmisher*, on her trials on Tuesday, May 29, attained a mean speed of 25.2 knots with 16,899 I. H. P., while the coal economy was very satisfactory. The *Sentinel* on her test four months ago averaged 25¼ knots for just over 17,000 I. H. P. One feature of the steaming of the *Skirmisher* was the uniformity of results in the two engines. The starboard engine made 201.5 revolutions and the port engine 201.6, and there was only about 50 H. P. of difference in the power indicated by them, which is practically within the margin of error of even the best indicators. The steam pressure at the boilers averaged 253 lbs., and at the high-pressure receiver of the engines 239 lbs., while the vacuum was 25½ inches. The total loss of water for the whole of the eight hours was only 13 tons. The mean speed of 25.2 knots was determined by taking the revolutions required for this speed over six runs on the measured mile at Skelmorlie in the first stage of the trial. These runs occupied one hour and 25 minutes. The vessel on this eight hours' test carried coal to enable her to steam for 1,500 knots at cruising speed, and the amount of coal requisite for this was ascertained by a trial of 96 hours' duration.

This trial was carried out from May 30 to the 3rd inst., and during the while run the speed averaged 10¾ knots, the power of the machinery being 940 I. H. P. On this trial the mean pressure of the boilers was 177 lbs. per square inch, and the engines again worked at remarkably equal powers; the starboard engine, which made an average of 79.6 revolutions, indicated 471 I. H. P., and the port engine developed 478 I. H. P. The coal consumption was low, one ton being sufficient to take the vessel rather more than ten nautical miles; in other words, the coal consumption was about one ton per hour, so that the scout, which has a coal capacity to load draft of 150 tons, will have very considerable radius of action. Bunkers, however, are provided for an even greater supply when going

into action, so that even 1,500 miles is by no means the maximum possible radius of action. The coal included that necessary for the steam to run the evaporators in order to make up the loss in the water supply, which during the whole four days and nights' steaming was only 15.9 tons, while 16.67 tons were made by the evaporators. Throughout all trials the machinery and Vickers' express boilers worked perfectly, the experience gained in the *Sentinel*, the first ship of the class, having been taken full advantage of. The vessel left Barrow only on May 23, and in addition to the official runs made several trials for experimental purposes. From the moment she was put on her official tests on the 30th ult. no time has been lost, the only off day being when the vessel was dry-docked preparatory to running at full speed.

LIVERPOOL SHIPPING LETTER

LIVERPOOL, June 19.—In the report presented to the general meeting of members of Lloyd's on Wednesday, June 14, the committee report that the number of members who have lodged with the committee policies guaranteeing their liabilities at Lloyd's in regard to risks other than marine or transport has considerably increased. Arrangements have now been completed with two of the leading firms of average adjusters in the United States of America by which the guarantee of the corporation is accepted in lieu of cash deposits on account of general average. It is believed that this will be of benefit to underwriters, and it is hoped that the system may be extended. The committee have recently undertaken to issue certificates to be used by merchants at important provincial places of business in the United Kingdom in connection with floating policies deposited in the secretary's office. The frequency of fires on board ships at sea and in docks, and the damage which results from the present method of extinction by water or steam, have engaged the attention of the committee, who appointed a special committee to consider the subject. It is hoped that the representations which have been made to the various authorities will result in the adoption of improved methods by which damage to cargo will be lessened or altogether avoided.

Mr. Theodore V. S. Angier, a familiar figure in London shipping circles has been going again for the Suez Canal management. He says that by the last meeting of the company, the breach in the agreement entered into with the British shipowners in 1883, confirmed by the shareholders' general meeting in 1884 and carried out in all its details up to 1904, has been repeated in an aggravated form, and in the face of strong protests from British and foreign shipowners. The result of this high-handed action is not only the loss to the shipping of all countries trading east of some \$1,600,000 in dues, but it creates a fatal and mischievous precedent, for it allows a private monopoly to handicap for its special benefit the eastern trade of the whole world, and to disregard its solemn engagements with impunity—failing prompt action by the interested parties. That the position of the British Government in this transaction should so far have failed to be appreciated by the British public is discouraging. It savors of a blunted sense of national honor. The British Government, Mr. Angier goes on to say, owns nearly half the shares in the company, has three representatives on the board, has received nearly half of the misappropriated funds as its share, and its representatives on the canal directorate have (for reasons of policy, no doubt) acquiesced in the action of the board. Therefore, to put it plainly, as matters stand, the British Government is a participator in what can only be described as unfair dealing on the part of the Suez Canal company. The company, according to Mr. Angier, has misappropriated the amount of \$1,600,000 to dividend, when it was bound by a solemn agreement to apply it to reducing the tonnage dues. Earnest representations made by the British shipowners to

the government have been fruitless. To do what is right, regardless of consequences, is the only true rule of life for individuals, and therefore equally for companies and governments, and no policy can justify participation in wrong doing. He therefore calls upon the government to give prompt attention to the matter.

I learn on good authority that the British Admiralty have issued invitations to tender for the manufacture of the turbine machinery of the new battleship Dreadnaught to only four firms, these being Messrs. John Brown & Co. of Sheffield and Clydebank, Messrs. Vickers, Sons & Maxim of Sheffield and Barrow, the Fairfield Shipbuilding Co. of Govan, Glasgow, and Messrs. Humphries, Tennant & Co. of London. In engineering circles some surprise is being expressed that Messrs. Thornycroft & Co. have not been included, and also that invitations have not been sent to some of the firms on the northeast coast, the birthplace as it were of the turbine engine. The favored firms are now busy with the details of their tenders, and some interest is being evinced in the result. It is thought that Messrs. John Brown & Co., taking into account the experience they have had with fitting out of the large Cunarders are best placed.

The new steamer Knightsgarth, built by Sir Raylton Dixon & Co., Middlesborough, to the order of the Rea Shipping Co., Limited, of Liverpool, is the second of the builders' new type of freight carrying steamers. She is specially designed for the owners' coal carrying trade, and will be used for coaling the battleships of the Royal Navy, and also the large Atlantic liners in Liverpool and Southampton. While lying at the builders' yard the vessel has been inspected by a large number of experts and people interested in bulk cargo carrying. Instead of the system generally adopted of fitting up deep hold tanks for additional water ballast, spaces are arranged under the gunwale of the vessel in the form of triangular tanks, the inner face of which is sloped from ship's side in an inboard direction, terminating at the deck 14 ft. from the center line, thus forming hatchways 28 ft. wide, the full length of the holds. These tank spaces are excluded from tonnage measurement, and this enables the vessel to carry almost three times her net register tonnage. The holds are quite clear of beams and stanchions, and the side stringers only project 3½ inches inside the framing, thus enabling the powerful grabs and other mechanical appliances to work with the greatest freedom in discharging. The dimensions of the vessel are 330 ft. by 45 ft. by 25 ft. moulded, and she will carry 4,350 tons on 19 ft. 4 inches draught. In addition to the water ballast in double bottom and peaks, which contain 1,100 tons, she has space for 550 tons in the topside tanks, making a total of 1,650 tons, which is sufficient to give the propeller full immersion when in ballast trim. The vessel has been built under special survey for the highest class in both Lloyd's and the British Corporation. She will be able to steam 10½ knots loaded at sea, and this speed will enable her to make the run from the Bristol Channel to Southampton in two tides.

During the coming Spanish fruit season beginning at the end of July, it is said the White Star Line's Mediterranean steamers, en route from Genoa to New York, will call at Almeria for grapes. Arrangements have been made to load in each monthly steamer about 30,000 barrels of grapes. Formerly the traffic was shipped in the regular traders to Liverpool, and transhipped to Boston and New York in addition to which a few tramp steamers were occasionally loaded from Almeria direct.

The Maryland Dredging & Contracting Co. of Baltimore, of which Mr. Frank Furst is president, is the lowest bidder for dredging a considerable section of the new 30-ft. channel in the Detroit river.

STEAMER DAKOTA COMPLETES HER LONG VOYAGE

The huge steamship Dakota, a sister ship of the Minnesota, has just arrived at San Francisco direct from New York, with a full cargo. The Dakota was 52 days on the passage from New York. When rounding Cape Horn, she experienced terrific gales, lasting for three days and nights. The coaling port of Coronel, Chile, was the first point at which the big Dakota touched after leaving New York. There she was held a week while taking in coal. From Coronel the run was made up the coast to San Francisco in seventeen days. One day the Dakota traveled 350 miles; but her average speed was nearly 13 knots per hour from New York to Coronel. However, after leaving the latter port, she surpassed that speed.

After discharging 1,700 tons of general cargo at San Francisco, the Dakota proceeded to Seattle, Wash., where 7,000 tons of steel rails were discharged. These rails are intended for railroad construction in Alaska.

The Dakota made a very successful voyage from New York and arrived at her destination in fine condition. She will sail from Seattle on her maiden Orient voyage as soon as her cargo is discharged and a new one received.

WORK AT THE PUSEY & JONES PLANT

The Pusey & Jones Co., Wilmington, Del., is building a combined dredging steamer and pile driver for service in South America. It is to be christened Concordia, and is rather an interesting boat. It is 120 ft. long, 26 ft. beam and 6 ft. deep with a draught of 3 ft. Its frame and plating are of steel. It has two non-condensing engines on the main deck, connected at right angles to the main shaft and driving a large stern paddle wheel. The engines, which have cylinders 16 in. diameter and 60 in. stroke, are to be supplied with steam from two locomotive boilers 19 ft. 8 in. long and 4 ft. 4 in. diameter. The steamer is to have three rudders so as to be easily and quickly steered, and is to be equipped with pile driver and dredging apparatus of the clam shell type. The bucket is to have a capacity of 1½ cu. yds. and the dredge is to be able to lift ten tons. The dredge will be set up completely and carefully marked, and then taken apart for shipping. The company is also engaged in building repair parts for the steamer Victoria constructed by the firm in 1882 for parties in Nicaragua. Repair parts are also being made for the steamer Alianza, now in South America.

WORK AT ROACH'S YARD

The Delaware River Iron Ship Building & Engine Works, more commonly known at Roach's Shipyard at Chester, Pa., is quite busy at present. An order has just been placed with it for a vessel to be of the same character as the Mohawk and Mohican, built some time ago at this yard. The new steamer is to be built for the New England Navigation Co. and is to be 287 ft. over all, 275 ft. keel, 45 ft. beam and 19 ft. deep, to be equipped with triple expansion engines 20, 34 and 56 in. cylinder diameters by 24 in. stroke, supplied with steam from three Scotch boilers with Howden's forced draft. The vessel is to be used for freight purposes only. The freight steamer building for the Chester Shipping Co. is plated and will be ready to launch in about six weeks. It is 150 ft. over all, 30 ft. beam and 9 ft. deep and will have compound engines 18 and 36 in. diameters by 26 in. stroke. The tug Wm. Rowland building for the Old Dominion Steamship Co. of New York was launched on June 17. It is 91 ft. 6 in. long, 20 ft. 6 in. beam and 11 ft. deep and has compound engines 15 and 30 by 32.

The Isthmian Canal Commission has determined to place agents as follows: New York, Alfred H. Anderson; New Orleans, S. E. Redfern; San Francisco, Major Carroll A. Deval, U. S. A.; Tacoma, S. H. Haradon.



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JUNE 29, 1905.

The new laws regarding the inspection of steamboats will go into effect next Saturday. They are the result of a number of conferences held between the Board of Supervising Inspectors and the steamship owners of the country and the greater part of the year's time has been given to the vessel owning interests to make their equipment comply with the law. In a number of instances the new equipment required is no better than the old, but vessel interests have generally complied willingly with the new regulations. As a matter of fact shipowners are the ones most intimately concerned with having their life saving appliances adequate and complete. The new rules are somewhat stringent upon inspectors themselves. For example, under the rules an inspector sent on board a steamboat to examine the supply of life preservers cannot make a cursory and perfunctory examination of them and pass them as satisfactory. He must take down each particular preserver, jump on it to see that it will stand rough handling and ascertain whether the straps are in good condition by pulling on them with all his strength. Having determined that they are in satisfactory condition he must then stamp them

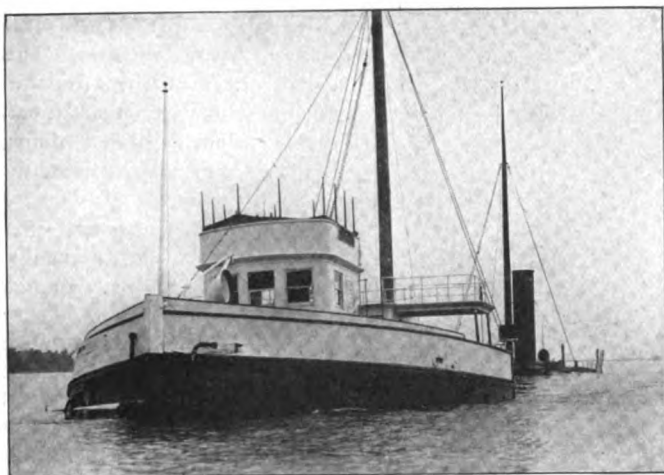
with his initials and become responsible for them for a year. Some of the regulations are, in the opinion of the vessel owners, unnecessary and a meeting will be held in Washington next month to seek to modify them further.

Mr. Charles T. Harvey who built the first canal at Sault Ste. Marie and who is to be marshal upon the occasion of the semi-centennial celebration of the completion of the canal in August next, has just returned from England and will now assume active direction of affairs. An awakening interest in the celebration is noted and the event will probably be worthy of crossing a continent to see. No better man could have been selected as marshal for the occasion than Mr. Harvey who possesses today precisely the same energy that he possessed fifty years ago when he built the canal. Congress has appropriated \$10,000 and the Michigan legislature \$15,000 to defray the expenses of the celebration, to which the iron ore and vessel owning companies have added liberally. There is every reason why the mining and vessel interests of the great lakes should take a lively interest in this celebration, for the construction of the canal made their development possible. Certainly no such commercial panorama exists on earth as that which passes through the canals at Sault Ste. Marie daily. It is a procession up and down for a period of eight months annually, moving a greater tonnage than is known elsewhere, a tonnage that is easily three times that of Suez. On Saturday last there was launched at Chicago the great steamer Wm. E. Corey, 569 ft. long and capable of carrying 10,500 gross tons of ore. Scarcely more than fifty years ago or to be exact, in 1845, the only vessel on Lake Superior bigger than the birch bark canoe was 55 ft. long. That was the schooner Algonquin. For the greater part of that year she handled the commerce of Lake Superior alone. Viewed in the light of present developments this fact is almost unbelievable and yet it is absolutely true. No part of the great round globe has undergone such rapid development as has the region surrounding the great lakes; nor has any region in the world had as profound an influence upon mankind. Consider the multitudinous forms of iron in the arts. The development of the Lake Superior region is the chief thing that has contributed to the industrial supremacy of the United States among nations. Indirectly it has brought prosperity to the whole world. Three-fourths of all the iron made in the United States is made out of Lake Superior ore. The iron that comes out of the Lake Superior hills alone is far more than that annually produced by Great Britain. One company, the United States Steel Corporation, using exclusively Lake Superior ores, makes more steel than is made in the whole of Britain. Then again there has come into existence a fleet of vessels embracing fully half the tonnage engaged under the American flag, a fleet whose like is not to be observed elsewhere, constitut-

ing a sound and most profitable business and one upon which the banks are quite willing to loan one-half the amount of money involved in it. All this is the development of fifty years; all this has come into existence since the first canal at Sault Ste. Marie unlocked the door to the rich mineral treasury of the northwest. Is it not proper that the semi-centennial anniversary of the construction of this canal should be marked by fitting exercises?

CITY OF ROME AND LINDEN IN COLLISION

The steamers City of Rome and Linden collided in the St. Clair river near Tashmoo Park last week and both vessels were sunk. The Linden was bound up with a cargo of coal



STEAMER CITY OF ROME

and the City of Rome was bound down with a cargo of iron ore. As the two steamers approached each other the suction of the passing steamer Francis Widlar is said to have caused the Linden to sheer across the bow of the Rome. The Linden was nearly cut in two on the port side abaft the foremast and the bows of the Rome were crushed in. The Linden sank in about 30 ft. of water near the middle of the



STEAMER LINDEN

channel between Grand Point and Sans Souci dock. The Rome sank near the Tashmoo docks. The Linden was owned by the Sandusky Lumber Co. and was built by the Jenks Ship Building Co. of Port Huron in 1895. The City of Rome was owned by Mr. J. C. Gilchrist of Cleveland and was built in 1881. The City of Rome will probably be raised.

HEAVY MOVEMENT OF ORE

The June movement of ore will probably exceed that of any month in the history of the lakes, notwithstanding the fact that for a portion of one week the movement was greatly delayed by fog. The Steel Corporation has never hitherto moved so large a quantity in a given period as it has so far this month. The total movement will probably exceed 5,000,000 tons. Vessels have been getting excellent dispatch and the railway companies have had an abundance of cars at Lake Erie docks to receive the ore. A far greater portion than ever is moving forward to furnaces; in fact some of the Lake Erie docks were completely cleaned up during the temporary delay caused by the fog. The rates are, of course, steady. Coal is also moving forward somewhat freely, and the scarcity of boats for the grain trade has caused the rates in that trade to continue firm.

TWO HARBORS ORE SHIPMENTS

Duluth, June 27.—Ore shipments at Two Harbors last week were 292,000 tons and for the month the shipments will probably be about 1,100,000 tons. This is the best the port has ever done. Receipts of coal there are very large, amounting to about 7,500 tons weekly. This will have to be maintained through the season to give the total required at mines and the ore roads for the year. The port is shipping a large amount of lumber, probably 50,000,000 ft. this year, and not less than 10,000 cords of spruce wood for paper making. Outside of these items it has no marine trade.

The project for enlarging this port by the use of Burlington bay, which lies to the east of the point that is now the shelter of boats landing at the docks there is sure to come up before long and must be settled. There is no more room for ore docks at the present harbor. The present increase in length of No. 3 makes it hard for vessels to turn in winds and there is no chance for any more. There is no question but that the commerce of the port is bound to increase, and as the Duluth, Missabe & Northern throws on the Duluth & Iron Range more and more of its eastern Mesabi business, which it must do as time passes, there will be an ore tonnage at Two Harbors that will require more room. When the project of improving Burlington portion of the "two harbors" came up before the war department some five years ago, it was rejected, but it is thought that now, with the assurance of more business and with the new arguments that can be brought forward by the present owners of the road and port, an appropriation can be secured. An effort along this line may be looked for at the next session of congress, or in the next river and harbor bill. The improvement will require a very heavy and quite a long crib breakwater at Burlington bay. There is no bottom in which piles can be driven and the work will all have to be rock filled cribbing or a concrete monolith, whichever may prove the cheaper and better.

OBITUARY

Mrs. Elizabeth Curtis Carpenter, wife of George Benjamin Carpenter, of the firm of George B. Carpenter & Co., ship chandlers, Chicago, died Sunday, June 25, at the family residence, 107 Lincoln Park Boulevard, after long illness.

It is with great regret that the Marine Review announces the death at Marquette of Mrs. Ellie S. White, wife of the Hon. Peter White. Mrs. White was Miss Ellie S. Hewitt, daughter of Dr. Morgan L. Hewitt, the first president of the Cleveland Iron Mining Co., who went to Marquette in the early fifties to assist in developing the iron mines. He later moved his family to Marquette. Peter White and Miss Hewitt were married on Sept. 29, 1857, at Marquette. For forty-eight years Mrs. White presided over an ideal home and was much beloved by all who knew her.

Launch of the William E. Corey.

The steamer Wm. E. Corey, building for the Pittsburg Steamship Co. was launched from the South Chicago yard of the American Shipbuilding Co. on Saturday afternoon last with more than usual impressive ceremonies. A special train carrying about 3,000 persons was run from the LaSalle street station of the Lake Shore railway to the yard and the great steamer took her initial plunge in the presence of as distinguished a group as has ever witnessed a lake launch. The launch was a success in every way. There are elements of danger, of course, in every launch and shipyard officials probably do not breathe easily until the ship is actually in the water, but side launches have been developed into such a science on the lakes that the layman cannot conceive where the elements of danger lie because the ships slide so smoothly and easily into the water and it is all over in five seconds' time. The Corey was no exception to the rule. She took the water on an even keel. The movements in launches are so rapid that the boat is likely to get under considerable headway before the sponsor thinks of breaking the bottle, but Miss Ada Corey christened this vessel in honor of her brother before it had advanced a foot on the stocks. The bottle was cleanly broken and drenched the sides of the vessel. Miss Corey was assisted by Miss A. C. Whigham, Mrs. W. E. Corey, Mrs. R. P. Bainbridge, Miss M. E. Gray, Miss E. Kuhn, Miss O. D. Munroe and Mrs. A. L. Dinkey.

In the absence of Mr. W. E. Corey who is in Europe, the United States Steel Corporation was represented by Mr. James Gayley, vice-president, and the Pittsburg Steamship Co. was represented by Mr. Harry Coulby, president and general manager of the company. The ship building company was represented by Mr. W. L. Brown, Mr. Russel C. Wetmore and Mr. Robert Logan.

The Corey is the second of the quartet of giant



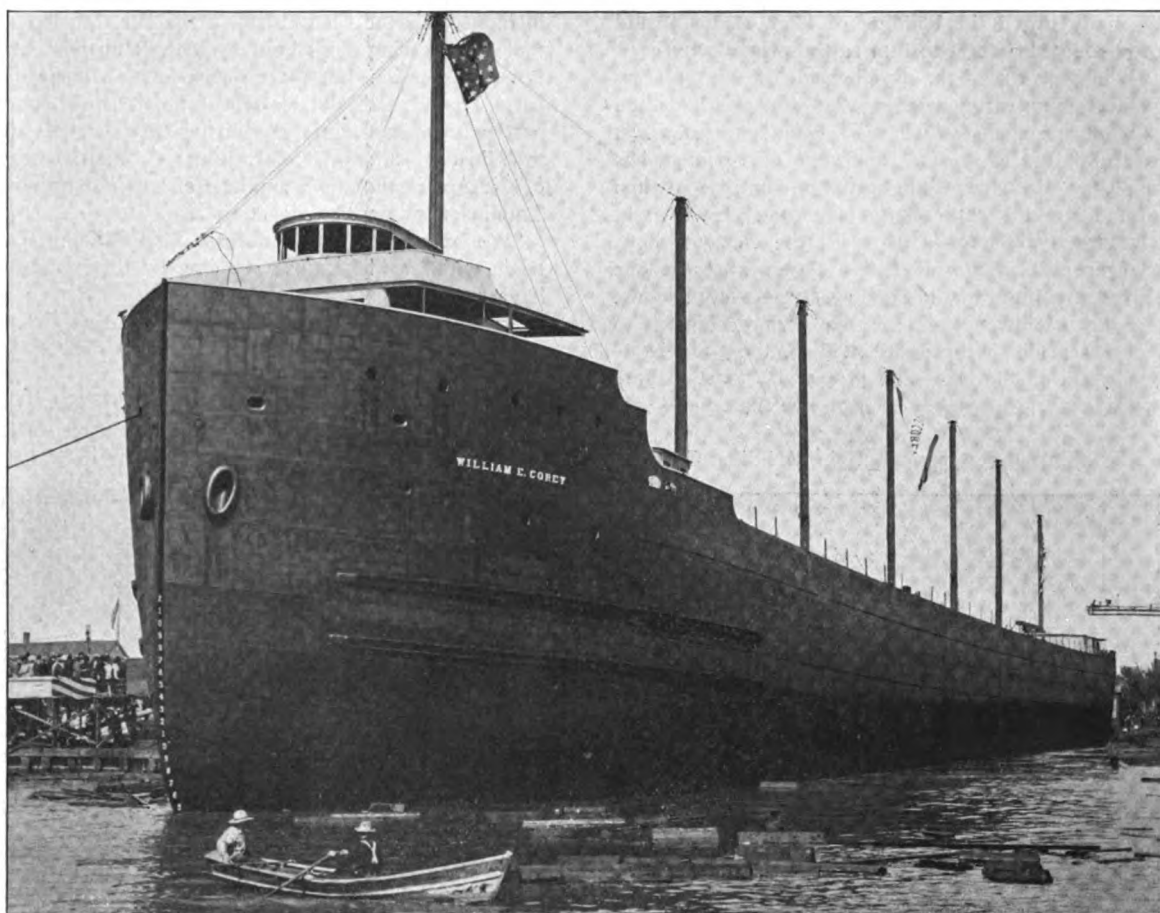
MISS ADA COREY.
Sponsor.



MR. WILLIAM E. COREY.

steamers building for the Pittsburg Steamship Co. to be launched. She differs from the others only in cabin arrangement. The other three ships have no passenger accommodations whatever, having only one spare room to accommodate an occasional representative of the company. The passenger accommodations of the Corey, however, are quite complete, the state-rooms, five in number, being decorated in birch and enameled white, each stateroom having a private bath. There is also an observation room on the forecastle deck with unusually large windows. This room is decorated in Circassian walnut. The passenger accommodations, of course, include a private dining room. The Corey is, of course, the flagship of the fleet.

The Corey and her sisters offer further testimony to the originality of design now marking the evolution of shipbuilding on the lakes. They are in a number of features unlike any ships built or building. In the first place they are the longest on the lakes, being 9 ft. longer than the Augustus B. Wolvin, or 569 ft. over all, 549 ft. keel, 56 ft. beam and 31 ft. deep. While the general principle of construction is the same as their predecessors in the absence of stanchions and stringers or any interference below deck with the unloading machines, the vessels are not of arch construction. Mr. Coulby after consulting a number of authorities concluded that an arch was primarily intended to support weight from the top and that a more rigid longitudinal construction could be secured by a straight girder across the deck. The construction of the cargo-hold also is a departure from anything at present on the lakes. The cargo hold descends in a straight line from the deck until within 9 ft. of the tank top when an inner hold or hopper is constructed 9 ft. from the skin of the ship and descends to the tank top. The top of the hopper is joined to the skin of the ship by an incline construction, thus avoiding what



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HULL OF NEW STEAMER W. E. COREY AFTER THE LAUNCH.

would otherwise constitute a shelf and also preventing any lodgment of ore. The water bottom is 5 ft. 6 in. deep and is used for water ballast in conjunction with a 9 ft. space formed by the hopper and the sides of the ship. This construction gives enormous water ballast capacity, approximating 8,500 tons, making the steamer navigable in all sorts of weather and providing extraordinary rigidity in the longitudinal section. The hatches number thirty-four and are spaced 12 ft. centers, the hatch covers being operated by the Brosseau device enabling the hatches to be opened or closed from a central station. These ships are designed for a carrying capacity of 10,000 tons but when favored with deep draught their actual cargoes are likely to be considerably in excess of this figure as has already been proved by the initial trip of the Gary.

The engines are triple expansion with cylinders 24, 39 and 65 in. diameters by 42 in. stroke, supplied with steam from two Scotch boilers, 15 ft. 4½ in. diameter by 11 ft. 6 in. long, fitted with Ellis & Eaves induced draft and allowed 170 lbs. pressure. It is interesting to note that this is precisely the engine equipment of the Manola which was built by Pickands, Mather & Co. in 1890 and which was at the time the largest carrier on the lakes. The Manola would carry in a full season 68,000 tons of ore. The Corey will carry on an equivalent number of trips over 225,000 tons of ore with the same fuel consumption. It is clear from these figures that the economical carrier is the single steamer of large carrying capacity and low power. The day of the consort is past.

After the launch the party returned on a special train to Chicago where dinner was served at the Auditorium at seven o'clock in the evening. It has been customary of late to make prominent the social features of launches and in this respect no launch has approached the Corey in elegance and beauty. The dinner was held in the banquet room of the Auditorium which was specially decorated for the occasion. In the center

a fountain of water played, made brilliant by the variously colored lights that beat upon it and made a thing of life by the fact that ferns and roses grew upon the banks of the fountain. The walls were decorated with American flags and the table was strewn with cut roses and carnations.

Mr. W. L. Brown, the chairman of the board of directors of the American Ship Building Co. presided. He offered a toast to Mr. Corey which was drunk standing and then introduced Mr. James H. Hoyt as toastmaster, designating him as the Chauncey M. Depew of the west. Mr. Hoyt's parts as toastmaster are well known. He likened the office of toastmaster to that of ring master in a circus—a person who does nothing but merely cracks the whip for others to perform. He regretted that Mr. Corey could not be present but thought it quite appropriate that Mr. Harry Coulby, the president of the Pittsburg Steamship Co. should take his place.

"I don't quite understand," said Mr. Coulby, "what part in the circus I am to take. We have had a prime day for the launch and I am quite sure that the Corey will do her work as well as he after whom she is named. I propose a toast to the one whom Mr. Corey has sent in his place and whom I am quite sure can manage the boat better than anyone else." Mr. Coulby then proposed a toast to Mrs. Corey.

Mr. Hoyt then stated that the man who built the first leviathan on the lakes was present; that the present ship was only 9 ft. longer than that one and that 9 ft. was not, in fact, a very great advance; but that it was indeed a bold thing to do to build a ship 500 ft. long when the ordinary vessel of the lakes was 100 or more feet shorter. He then introduced Capt. A. B. Wolvin.

Mr. Wolvin very modestly disclaimed that the idea of the large ship was original with him. He said that at all the early meetings in New York when the Steel Corporation was formed Mr. Corey persistently advocated the big ship as a unit in bringing about reduction in costs. He said that Mr.

Corey continually urged the building of large steamers and he therefore proposed a toast to him as the primal mover.

Mr. W. D. Haynie traced the development of ship building in a most entertaining manner, saying that America had been discovered in cockle shells which scarcely anyone nowadays would dare to venture to sea in. The same development has taken place on the lakes from little beginnings until 1899 when the idea of the larger boat began to take root. He thought that men had pretty effectually mastered the elements now, since the larger boats may ride half a dozen waves at one time and are not subject to the bending stresses even in the same degree that smaller vessels are. He declared himself to be proud of his pride in the good builders, the good boats and the good steel on the lakes and proposed a toast to both the Gary and Corey. "May they each outlive the other," said he.

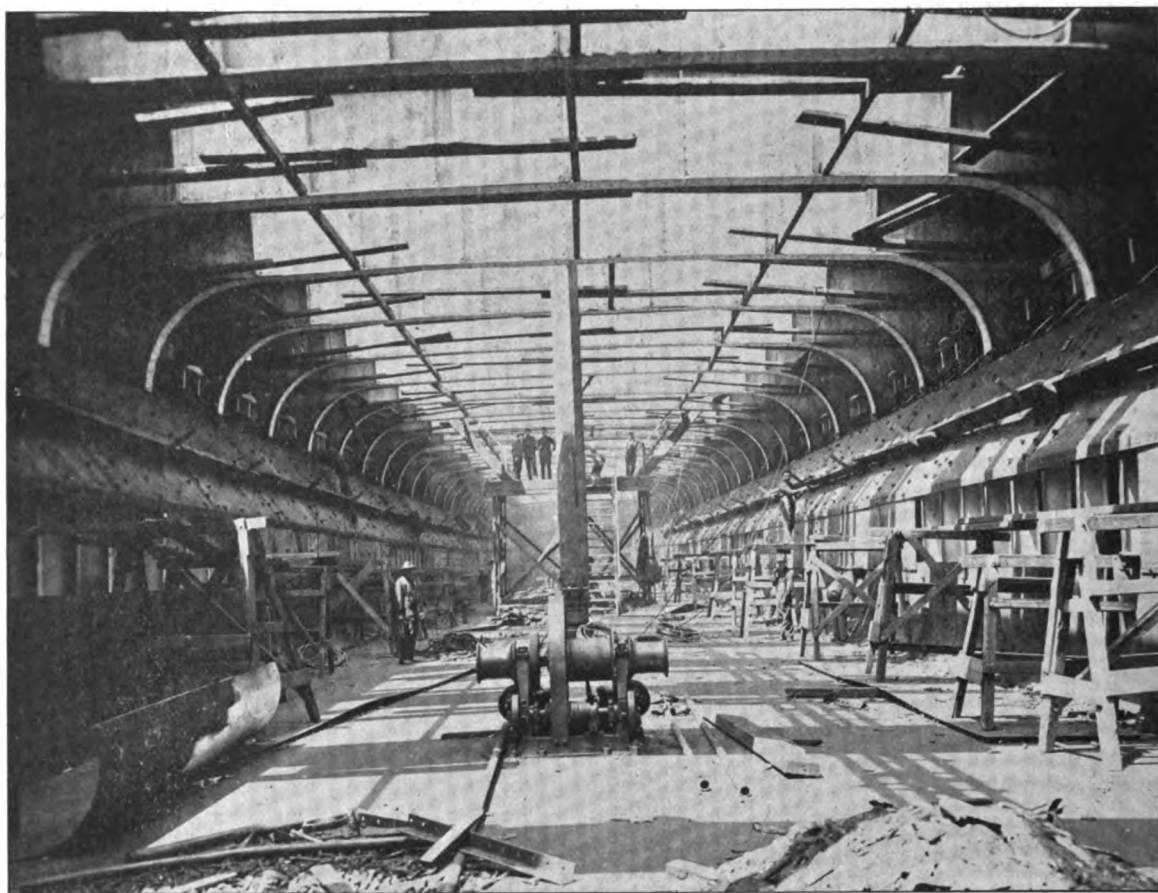
"Those who think the American Ship Building Co. is a

introduced by the Chesterfield of the Western bar. It is true that I am having ships built by both companies, at least that is my impression, but there seems to be a disposition on the part of both yards not to deliver them. Both companies are past masters in the art of jollyng their clients, giving them taffy instead of ships." Mr. James C. Wallace the president of the American Ship Building Co. was not present and Mr. Tomlinson proposed a toast to him.

"We have found the American Ship Building Co. hard to trade with," said he, "but standing by their trade after they have made it."

Mr. Hoyt explained that delays were sometimes unavoidable, being caused by inability to get material, in which view he was corroborated by Mr. Pessano.

Mr. Homer J. Carr was introduced by Mr. Hoyt as the mouthpiece of the public press in all marine matters. Mr. Carr thanked the company for the invitation which had been



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INTERIOR VIEW OF CARGO HOLD OF STEAMER W. E. COREY.

trust," said Mr. Hoyt, "are very much mistaken. There are others. Our hated rival is present tonight, and on behalf of the dear public I take pleasure in introducing Mr. A. C. Pessano of the Great Lakes Engineering Works."

Mr. Pessano disclaimed the hated rival idea, saying that the Great Lakes honored and admired American Ship, that they were indeed friendly rivals and that while the Great Lakes hoped to exceed American Ship it would do well indeed if it equaled it. Mr. Pessano frankly stated that he thought the Corey to be the finest specimen of work turned out at the lake yards as yet. As to his own yard, it was new but it had the services of men who in years gone by had built excellent ships at other yards, incidentally paying a compliment to Mr. W. I. Babcock of New York.

Mr. Hoyt then called upon Mr. G. A. Tomlinson who has had ships built at both yards to discuss the subject from the standpoint of the shipowner.

"It is a very pleasant thing," said Mr. Tomlinson, "to be

extended to the Press Club of Chicago to witness the launch. He said that the people of Chicago did not really know much about ships and that the launch of the Corey was an object lesson to them. He related that in 1888 when he established the lake marine news service the steamer E. P. Wilbur came to Chicago on her maiden trip. She was the largest ship that ever reached the port but today she has even lost her name and would hardly be a tug to the Corey.

Mr. Hoyt took occasion to refer to the work which the Marine Review is doing in endeavoring to consolidate the marine interests of the country for the upbuilding of American shipping and shipbuilding, saying that it was quite as representative on salt water as on fresh water. He then introduced Mr. John A. Penton, president of the company.

Mr. Penton said that it was a sad thought that while on fresh water shipping had flourished under favoring laws and had been able to establish the lowest known rate of transportation on earth, the American marine on the high seas by



SOME OF THE SPECTATORS AT THE LAUNCHING OF THE WILLIAM E. COREY.

reason of the absence of these laws had practically ceased to exist and that in a very short time the American flag would not be seen at all on the oceans of the world. He stated that



MRS. R. P. BAINBRIDGE, MISS A. C. WHIGHAM, MISS ADA COREY, MRS. W. E. COREY, MISS M. E. GRAY, MISS E. KUHN, MISS O. D. MUNROE AND MRS. A. C. DINKEY.

there was tremendous significance in this where the future is concerned. He declared that the government was spending

anywhere from \$200,000,000 to \$500,000,000 on the Panama canal for a purely sentimental reason. This ditch is ostensibly dug for the convenience of American ships, whereas there are no American ships. The sum of \$100,000,000 is spent annually on the navy and \$80,000,000 on the army. All that is needed to give shipping a start in life is about \$4,000,000 per annum for a few years, a sum paltry in contrast with the amounts just named, and no one seems to understand why it is not given. The Panama Commission at this very moment has a representative abroad to buy ships to carry American supplies, and even the members of the executive family of the United States, to Panama. The ships that carry American supplies to Panama have foreign papers, foreign officers and foreign flags, while at the selfsame moment American bottoms are rotting in our harbors."

"That," said Mr. Hoyt, jumping to his feet when Mr. Pen-ton had finished, "should be the keynote of our campaign. Over \$200,000,000 of our money was earned by foreign ships last year. Why is it that all industries are protected except this one of ship building? The American Ship Building Co. owns two ships, the Minnetonka and the Minnewaska, that are now lying idle on the coast owing to the higher cost of material that entered into their construction caused by reason of our fiscal policy. Why should the great government of the United States go abroad for its ships? Why should free trade prevail for it and protection for its citizens? Why should I be compelled to pay 40 percent duty under the Dingley tariff and the government divest itself of this responsibility? Gentlemen, this is a burning question; you can't have free trade for the government and protection for the individual. Who is the government of the United States? Is it not the people of the United States? I think protection is a good thing and am willing to pay the duty, but the government too should be bound by the same laws that bind its citizens. One vital interest alone is left out of protection, left to languish, to dwindle and to become extinct. We formerly carried 90 percent of our products in our own ships. Now we carry less than nine percent. Why, even 5 percent of the \$200,000,000 that we annually pay to foreign ships if bestowed upon our American ships would make shipping

blossom like the rose. We ought to, all of us, remember that this condition exists and in all such gatherings as this we should do all that we can to remedy it."

Mr. Hoyt then said that the list of settled speakers was exhausted but that if anyone present desired to talk he had the privilege of rising to his feet.

Mr. Pessano took occasion to toast Mr. W. L. Brown for his patience and diplomacy. Mr. Brown in replying hoped that there would be future launches such as the Corey and that the occasion would be graced by such company.

Mr. Coulby by request toasted the toastmaster and Mr. A. C. Dinkey, the president of the Carnegie Steel Co. was called upon. Mr. Dinkey stated that the poor steel worker was the butt of the contractor and was always blamed for delays which were, however, unavoidable. He proposed a toast to the American Ship Building Co.

Mr. Edward M. Hager was then asked to take up the subject of waste material. He said that the Corey would carry 10,500 tons of ore of which 6,000 tons would become pig metal and the 4,500 tons would be waste, upon which fuel and freight would have been paid. He added, however, that latterly a process had been discovered to put the waste to use and that 3,000 tons of it could now go to make good Portland cement, adding that sometimes there was actually greater profit in the so-called waste than in the pig metal itself.

"If you will build your furnaces where we are building ours," said Mr. Wolvin, "there would be no waste," referring to the Zenith Iron Co. of Duluth.

The banquet then came to an end. Those present were:

Chicago—Mr. and Mrs. E. J. Buffington, Mr. and Mrs. T. W. Robinson, Mr. and Mrs. T. J. Hyman, Mr. and Mrs. Edward M. Hager, Mr. and Mrs. K. K. Knapp, Mr. and Mrs. Geo. Baker, Mr. and Mrs. W. D. Haynie, Mr. and Mrs. R. W. Campbell, Mr. and Mrs. H. W. Sutcliffe, Mr. and Mrs. George L. Davidson, Mr. and Mrs. Mathew McClung, Mr. and Mrs. J. G. Bergquist, Mr. and Mrs. E. B. Clark, Mr. and Mrs. Homer J. Carr, Mr. and Mrs. Frank Backes, Mr. and Mrs. A. F. Banks, Mr. and Mrs. W. A. Gardner, Mr. and Mrs. John Spry, Mr. and Mrs. Dennis Sullivan, Mr. and Mrs. C. R. Webster, Mr. and Mrs. W. D. Washburn, Mrs. Hoyt, C. P. Wheeler, C. T. Boynton, W. L. Brown, A. G. Smith, Mr. and Mrs. W. B. Kelly, Mr. C. E. Mosley, A. W. Thompson.

Pittsburg—D. M. Clemson, D. G. Kerr, Thomas Morrison, Sam Benner, John Neal, Miss Ada Corey, Mr. and Mrs. R. P. Bainbridge, Miss A. C. Whigham, Miss M. E. Gray, Miss E. Kuhn, Miss O. D. Munroe, Mr. and Mrs. A. C. Dinkey, G. K. Preston, W. G. Clyde.

Cleveland—James H. Hoyt, Harry Coulby, Robert Logan,

R. C. Wetmore, Gustav Vondensteinen, E. M. Richardson, Tom Scott, J. M. Mulrooney and John A. Penton.

New York—James Gayley, H. W. Marsh, W. I. Babcock, Mrs. W. E. Corey.

Duluth—A. B. Wolvin, G. A. Tomlinson.

Buffalo—Ed. Smith, Wm. Knight.

James A. Davidson, Bay City; Antonio C. Pessano, Detroit, and J. R. Andrews, Bath, Me.

On Sunday afternoon the launching party, consisting of Miss Ada Corey, Miss Whigham, Miss Gray, Miss Kuhn, Miss Munroe, Mrs. Bainbridge, Mrs. W. E. Corey, Mrs. A. L. Dinkey accompanied by Mr. Harry Coulby and Mr. Robert Logan left for West Superior where the sister ship George W. Perkins was launched on Monday afternoon. Miss Powell of Duluth, the daughter of Mr. L. W. Powell, assistant general manager of the Oliver Iron Mining Co., christened the Perkins. The Perkins had her engines and boilers in and spars up.

The Pittsburg Steamship Co., one of the subsidiary companies of the United States Steel Corporation is the leading factor in the lake trade, has the greatest number of boats and handles the largest tonnage on the lakes. The United States Steel Corporation was formed in February, 1901, and the fleets taken into the Pittsburg Steamship Co., which already had eleven steamers and two barges were: Bessemer Steamship Co., 25 steamers and 31 barges, a total of 56 ships; Minnesota Steamship Co., 12 steamers and 10 barges, a total of 22 ships; American Steamship Co., 12 steamers; Menominee Steamship Co., five steamers and the Mutual Steamship Co., four steamers, a grand total of 112 ships, of which 69 were steamers and 43 were barges.

In 1902 the company lost the whaleback steamer Thos. Wilson and whaleback barge 129 and in 1903, the Steel Corporation, through the purchase of the Union Steel Co., acquired the steamers Shaw and Murphy. For the purpose of comparison, the Pittsburg Steamship Co. fleet in 1903 was in commission an average of 210 days and each boat made on an average of 18 trips. In 1904, which was cut short on account of the Masters & Pilots' strike, the fleet was in commission an average of 171 days and made on an average 16 trips. The tonnage carried in 1903 was 9,722,059, or an average ore cargo of 4,678 gross tons for each ship in the fleet as compared in 1904 with a tonnage of 9,183,678 gross tons or an average cargo per ship of 4,763 gross tons.

The largest cargo for the fleet for the season of 1903 was carried by the steamer Edenborn, 8,720 gross tons, from Escanaba to South Chicago. The Edenborn also made the fleet record for single cargo for 1904, carrying 8,572 gross tons between the same ports.

In 1901 D. M. Clemson of Pittsburg was elected president and A. B. Wolvin of Duluth vice president and general man-



MR. A. G. SMITH.

The man who launched the Corey.



CAPT. F. A. BAILEY.

The man who will sail the Corey.



THE BANQUET SCENE AT THE AUDITORIUM, CHICAGO, IN HONOR OF THE LAUNCHING OF
LAKE ORGANIZATION OF THE UNITED STATES STEEL CO.

SUPPLEMENT TO
THE MARINE REVIEW
JUNE 29, 1905



THE GREAT STEAMER WILLIAM E. COREY, BUILDING FOR THE PITTSBURG STEAMSHIP CO., (THE
ORATION), AT THE YARD OF THE CHICAGO SHIP BUILDING CO.



ager. On January 1, 1904, both these gentlemen resigned their positions and H. Coulby of Cleveland was elected president and general manager and L. W. Powell of Duluth vice president. The other officers of the company are: James H. Hoyt, secretary and counsel; Charles E. Scheide, treasurer; A. F. Harvey, assistant general manager; E. C. Collins, traffic manager and W. M. Jeffrey, auditor.

In 1904, the average cargo carried by the fleet was 4,763 tons. On account of the rapid progress made in the adoption of automatic unloading machinery, it was found that the small whalebacks, on account of their small carrying capacity and inconvenience of their hatches, were unfitted for loading and unloading at the modern equipped docks. The Finance Committee of the Steel Corporation therefore, decided to dispose of the smaller boats of the fleet, which was accomplished by the sale of sixteen of the small whalebacks, and to construct four modern steamers. Contract was given to the American Ship Building Co. for four steamers, 569 ft. over all, 56 ft. beam and 31 ft. deep. These boats were especially adapted to meet the requirements of the automatic unloading machinery. The first of these boats, the Elbert H. Gary, went into commission about June 1st and carried the record-breaking cargo, from Escanaba to South Chicago, of 12,093 gross tons. This boat has also taken a record-breaking cargo from Lake Superior, having brought through the canal and delivered at South Chicago a cargo of 10,629 gross tons.

By the sale of the sixteen small boats, and the acquisition of the four modern steamers, the average cargo of the fleet has been increased from 4,763 to 5,297 tons.

ENGLISH SHIPPING WAR HELPING US

Editor Marine Review: The London Times' financial supplement of May 29 reports its Sydney, Australia, correspondent as significantly saying, under date of April 17: "Another important factor, and one which for some months past has had a direct effect on British trade, has been the freight situation at New York. Steamers are carrying cargo from the eastern ports of the United States to Australia at nominally 15 shillings per ton, and sailers at 10 shillings per ton. Competition and the over supply of tonnage have, however, reduced rates on certain lines of merchandise to as low as 3 shillings and 6 pence, and even 2 shillings per ton.

"Under these rates Australian importers have been able to take United States merchandise at a sufficiently reduced cost of transport, to raise some question as to whether a preferential tariff between British dominions would meet conditions which seem beyond the sphere of ordinary supply and demand. As a matter of fact goods have been sent from London to New York for transshipment to Sydney and Melbourne."

British exporters may as well make up their minds first as last that British Colonial tariff preferentials by Australia or South Africa, in favor of Great Britain will no more avail to keep American goods out of those colonies than the Canadian-British tariff preferential avails to keep American goods out of Britain's premier colony—Canada.

When foreigners want American goods they buy them tariff or no tariff—preferential or no preferential, and that is all there is to it. Germany will find that out before her new tariff has been many months in operation.

On the other hand when American manufacturers are overstocked at home, or want to increase production so as to make at cheaper rates in larger quantities, they do either or both, and that's all there is to that side of the question. When the American goods are made they have to be sold, and English-American speaking countries are the easiest countries to sell them in, and there you are.

WALTER J. BALLARD.

ITEMS OF GENERAL INTEREST

The Canadian Pacific Railway will put a new steamer on its Victoria division. She will probably be built at Victoria and will ply between that city and Seattle.

The buildings at Burgess & Packard's boat yard at Marblehead, Mass., are fast nearing completion. The firm intends to do an extensive business.

Frank Stone, the boat builder at Harbor View, San Francisco, about the middle of June launched the gasoline schooner Anvil, built in his yard for the John R. Lesnon Co. of San Francisco. She is equipped with 300-horse-power engines and is intended to run from Nome to points to the north of that city.

The first-class cruiser South Dakota, launched on July 21 of last year, went on to the dry-dock at Hunter's Point, San Francisco, recently, for her first annual overhauling. Her propellers will be put in; she will be painted from stem to stern and thoroughly cleaned. It is believed that she will be in commission early in 1906.

A new launch built by Swanson of Tiburon for use on the Bay of San Francisco is named Mary V. D. She is equipped with a 12-H. P. Peters gasoline engine and is of the torpedo model. In her trial trip she proved fast and seaworthy. Her owner is Captain von Dahern and her home port will be Tiburon, Marion county, Cal.

Considerable progress has been made with the 25-knot steamers building for the Cunard Steamship Co. at Newcastle and Clydebank. At the Darlington Forge Works the steel frame of one of these vessels has been successfully cast. The casting, which is of steel, is the largest of its kind which has been made, the molten metal used weighing seventy tons.

The steamer Rockland has been purchased from the Eastern Steamship Co. of Boston by Capt. V. R. Ray of West Brooksville, and F. G. White of Belfast. The steamer will be put on the route between Bangor and West Brooksville to take the place of the Tremont, which will run from Islesboro to Bangor.

The trial trip of Com'dr Peary's arctic exploration ship Roosevelt has been held and has proved satisfactory. The maximum speed attained was 13 knots an hour and the minimum about 8½ knots. The Roosevelt can log ten easily. Com'dr Peary pronounces her the best type of ship that has ever started in quest of the pole.

The Eastern Ship Building Co. of New London, Conn., is to build a turbine steamer for the Eastern Steamship Co. of Boston to be a practical duplicate as far as outer appearance goes to the Calvin Austin. Direct corroboration has not been received from the company of this announcement, but if built, it will be the first merchant ship to be built in this country with turbines.

Com'dr A. B. Canaga, of the navy, in a report to the Navy Department on the subject of turbine engines, recommends that "hereafter turbines be installed in torpedo boats, destroyers, scout cruisers and gunboats. Their use in such vessels and the experience that is gained therefrom will, no doubt, in time, demonstrate the wisdom of fitting them in battle ships and armored cruisers."

The announcement has been made by the navy department that the name of the training ship Chesapeake is to be changed to Severn. The purpose of this is to extinguish her name from the active list of the navy, the Chesapeake being the only United States vessel that ever lowered her flag to an enemy of equal strength. Mayor McClellan of New York has appointed a committee to estimate a report upon the estimated cost on a maritime exhibition in New York in 1908 in celebration of the centenary of steam navigation. The committee consists of Oscar Straus, Wm. McCarroll, Aaron Vanderbilt, Frank S. Gardner, Thomas Clyde, Herman Metz, Arthur English, James H. Kennedy, Gustav Schwab, Hugh Kelly, James A. Wright.

HOW BUFFALO VIEWS THE SITUATION

BUFFALO, June 27.—There is disappointment in the lake trade and in some branches of it discouragement, for there is little in the outlook that is a promise of recovery later of what has not been earned so far. One need not say that there have been losses anywhere to give the proper impression of the present conditions. The state of mind to be sized up is based more or less on the recollections of the easy way money has so often been made on the lakes and on the conviction that it is not to be done any more, unless one owns vessels of the larger size.

I am aware that predictions of this sort have often been proven less hopeful than they should be, for the fleet has always, or at least for the past 20 years, been considered too large for the good of rates and yet the profits have come in much more generally than in most other business, so that the great capitalists of the country have been obliged to embark in the trade as at least one of the best things in sight. But they did not take up the lake trade till ship building had been completely revolutionized by the success of the steel hull, not entirely as a money maker, but as a permanent thing, subject to next to no loss from decay. The shutting out of this element in the reckoning is now to become a new factor in the trade and it will tell against the older fleet here as it can never do on the coast, for our trips are of too uniform length and our big ports too few to permit many classes of vessels to live side by side.

Of late nothing has revived here but the hard-coal trade and that has been practically turned over to the smaller fleet, as the shippers are doing all they can to push coal into the minor ports. It used to be hard to get an adequate supply there, for the coal buyers disliked to tie up their money in warm weather for something they had no market for till winter, so they held off till fall and then all wanted coal at once. The result was that there was an end of the season with many of these ports short of coal, to be supplied by rail at great expense. The sliding scale of summer prices gave these buyers something to induce them to buy early and they are making the most of it. Already, with another week of June, Fort William has taken 54,000 tons, Racine 30,000 tons, Green Bay 25,000 tons, little Kenosha, 10,000 tons and DePere, that used to take next to none, 6,700 tons.

This is an instance of knowing how to handle business to advantage. It offers the receiver and the buyer a premium for doing what the seller is especially anxious to have done and it means profit to both ends of the trade. In these days of close margins in so many things there is good business in such methods. So the shippers are just now neglecting the large ports for the small ones, as they know the ore carriers are ready to pile them full of coal in a few days at the end of November if there is any fear of a shortage there. Considerable special preparation for such a condition of the trade is made here. The Lackawanna Co. is rebuilding and enlarging its mile-long storage and transfer trestle east of the city and the Lehigh Valley is building a new one that will hold 100,000 tons, all transferable at short notice.

So the lake coal trade here is one thing, possibly the only thing, that is showing an improved condition pretty certain to last. While the railroads can move grain and other freight well enough, they are not able to meet the requirements of coal much more than of ore, especially when great amounts are suddenly thrown on the carrier. There is all of the old uncertainty in the future of the grain and flour trade by lake and this season is decidedly discouraging. The amount to be carried would be small in either grain or flour, for grain is scarce and there is not export demand enough to move much flour, but there is no certainty that the trade will spring up again when these drawbacks are removed.

There is some falling off in ore receipts here of late, though that may be set down as accidental. The second Buffalo &

Susquehanna smelting furnace is still idle, waiting for a better condition of the iron trade, but it will be blown in as soon as there is a good market for the pig iron. The new ore dock on the opposite side of the canal will be ready for business as soon as possible. Visitors to Pittsburg during the last week express astonishment at the amount of ore and coal going into the furnaces, but they have to add that ore as well as coal has to be brought to the blast by rail. Our furnaces are fed from the lake direct and the product goes on to the ocean by water. The business cannot help growing rapidly.

JOHN CHAMBERLIN.

CANADIAN SHIPPING NOTES

The particulars in the action of the Northern Navigation Co. against the estate of the late J. J. Long, at one time president of the company, for \$150,000 damage for alleged false and fraudulent representation, and alternatively for \$83,000 and interest from June, 1904, which the late Mr. Long agreed to pay to settle the claim. The particulars set out that J. J. Long as president was authorized to prepare a report and financial statement, by by-law, which he did, and on the strength of his representations that it was a full and true statement it was adopted by the directors, and issued to the shareholders and the general public. The statement showed that the profits for 1902 were over \$80,000, whereas they were only \$58,000, a fact within the knowledge of J. J. Long at the time he prepared the statement. Dividends had been paid prior to the report being made, and subsequent to its issue, in all over \$83,000 having been so paid. It is alleged that this false statement was made for the purpose of influencing the price of the stock of the company, of which J. J. Long was a large holder, and of enabling him to sell at an enhanced value, which he did. When the company's books were examined by special accountants in 1904, as the result of an agitation among the shareholders, after the sensational drop in the market value of the stock in the fall of 1903, the facts as alleged came to light, and negotiations between H. C. Hammond, the new president, and the ex-president, resulted in an agreement by which J. J. Long undertook the repay to the company the \$83,000 paid in dividends during the period covered by the alleged false statement. Before the money could be paid the body of J. J. Long was found in the Don River, Toronto.

The Dominion government has issued proclamations declaring the ports of New Carlisle and Bonavenhere, Que., to be ports to which the act relating to harbor masters shall apply, and appointing J. Chisholm to be harbor master at New Carlisle, and A. Bourque harbor master at Bonavenhere.

The Union Steamship Co. has been incorporated under the Ontario Companies' Act to carry on a general navigation business on the Great Lakes. The incorporators are: R. O. and A. B. Mackay, W. G. Walton, W. Southam, W. Magee, all of Hamilton, Ont. The capital of the company is \$100,000 and the offices are at Hamilton, Ont.

The Dominion Parliament is being asked to pass an act for the purpose of providing that the Harbor Commissioners shall cease to be the pilotage authority for Quebec, annexing the Saguenay river to the Quebec pilotage district, and declaring that the Minister of Marine shall be authorized to exercise all powers under the Pilotage Act, except in regard to the treating of pilots for breaches of regulations.

The Great Lakes Steamship Co., owning the grain carrier Haddington, has placed an order in Great Britain for a full canal-sized steamer for fall delivery. The new steamer will be named the Royal.

The Turbine Steamship Co., although negotiating with British builders for another steamer, have not yet placed an order. It is not intended to order as large or as speedy a steamer as the Turbinia.

AROUND THE GREAT LAKES

The preferred dividend on American Ship Building stock is payable July 15. The books close July 5 and reopen July 17.

The Craig Ship Building Co. has sold the new steel tug Craig to the South Haven Wrecking & Towing Co.

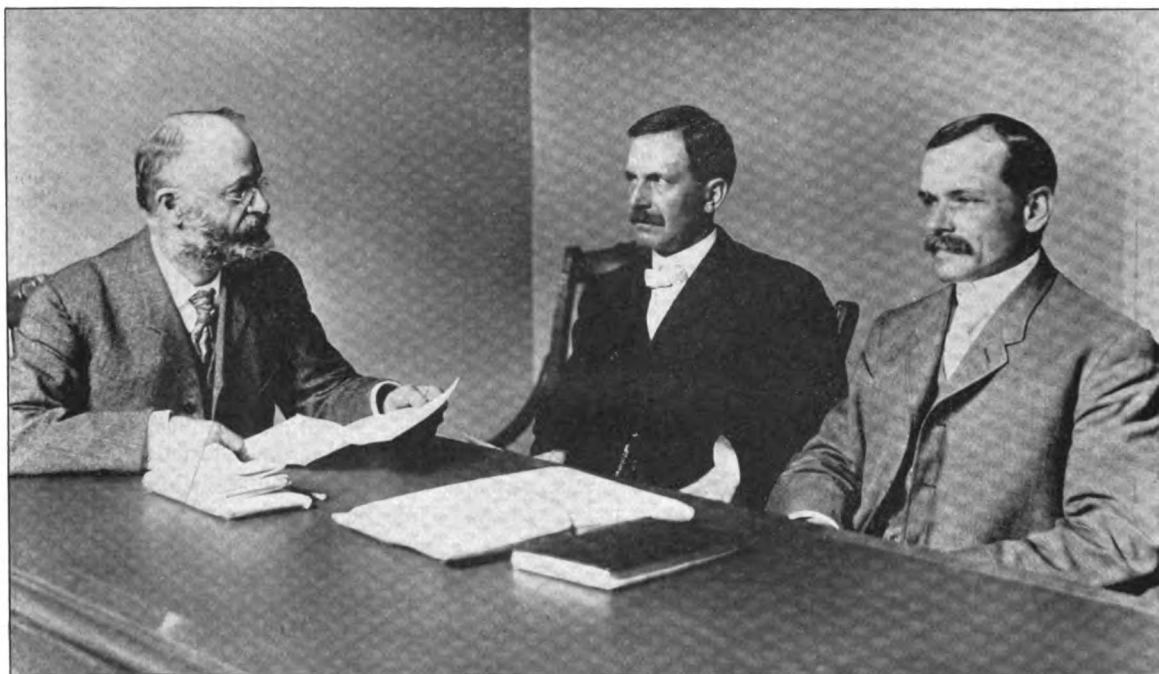
A revision in colors of chart No. 2 of St. Mary's river has just been issued by the United States lake survey office and is for sale by the Marine Review.

BOARD OF GOVERNMENT ENGINEERS TO STUDY WAVE ACTION OF THE HARBORS OF LAKE MICHIGAN

the American Ship Building Co. undergoing repairs from effects of her collision with the Etruria.

Lieut. Col. W. H. Bixby of Chicago and Major D. D. Gaillard of Washington and Major L. H. Beach of Detroit, government engineers, have been appointed as a board to study the wave action of the harbors of Michigan.

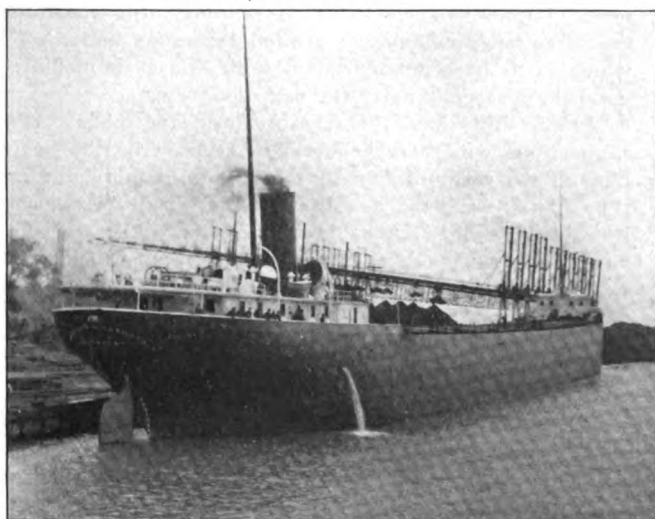
The Davis Dry Dock Co. of Kingston, Ont., has been awarded the contract for rebuilding the hull of the steamer



LIEUT. COL. W. H. BIXBY, MAJ. LANSING H. BEACH AND MAJ. D. D. GAILLARD

A new chart in colors of Tawas Harbor has just been issued by the United States Lake Survey office and is now on sale at the Marine Review.

Capt. F. W. Doty of Goderich has purchased the wreck of the steamer Lincoln, which was burned at Sandwich a short time ago.



STEAMER STEPHEN M. CLEMENT ON HER MAIDEN TRIP.

The steamer Wm. A. Paine, building for Capt. Charles L. Hutchinson of Cleveland was launched at the Cleveland yard of the American Ship Building Co. on Thursday afternoon.

The steamer Amasa Stone is at the Wyandotte yard of

Scout recently wrecked by the explosion of acetylene gas in her buoys.

The passenger steamer China, which was bought by Montreal parties and renamed City of Montreal, has just made her maiden trip under her new name. She will trade from Lake Erie ports to Montreal.

President J. H. Graham of the Graham & Morton Line announces that the experiment of his line in operating passenger steamers between Chicago and Lake Superior has proved highly successful and that the line has become permanent.

Maj. Charles L. Potter, government engineer at Duluth, has opened bids for pile dike work and riprap at Grand Marais, Mich. Whitney Bros. Co., Superior, Wis., bid \$27,650, and Powell & Mitchell, Marquette, Mich., bid \$26,200.

The steamer Shamrock sprang a leak and became water-logged off Presque Isle, Lake Huron, last week. It was necessary for the crew to abandon her and they were taken to Alpena by the steamer Peshtigo. The Shamrock is owned by T. M. Lyons of Buffalo and was valued at \$8,500.

The transportation of hay is not one of the staple trades of the lakes, but nevertheless the steamer Benton and the barge S. B. Ponieroy have been chartered for the season by Charles Young of Albion, Mich., to carry hay between Port Huron and the Tonawandas.

The New Orleans Dock & Ship Building Co. has applied to the New Orleans Levee Board for permission to moor its new 5,000-ton dock now under construction at Orange, Tex., at Algiers in front of its property. The dock will occupy almost the same position formerly occupied by the Good Intent Dry Dock which was sunk some time ago. The Litcher & Moore Cypress Co., Orange, Tex., is building the dock. When completed it will be towed down the Sabine river to Sabine Lake and through the Sabine Basin to the gulf.

Merchant Marine League.

Eloquent and convincing words in behalf of the rehabilitation of the American merchant marine were spoken in the reading room of the Boston Chamber of Commerce Saturday afternoon last by men well qualified to utter them. The occasion was a public meeting of ship owners, merchants and manufacturers of this city and vicinity in the interest of the Merchant Marine League of the United States.

The principal speakers were Harvey D. Goulder, president of the league, and United States Senator Jacob H. Gallinger of New Hampshire, chairman of the congressional merchant marine commission.

They were heard by a notable gathering of some fifty representative shipping men and others, and their patriotic remarks were received with great applause. The meeting was one of the most interesting of the kind ever held in Boston, and as a result there will probably be a number of accessions to the local membership of the league.

Congressman Samuel L. Powers, vice president of the league for Massachusetts, presided, and after briefly stating the purpose of the meeting and outlining the objects of the league, introduced as the first speaker President Goulder.

Mr. Goulder prefaced his appeal in behalf of the organization by giving some striking facts relative to the wonderful work that has been accomplished on the great lakes in the way of replacing the former small ore-carrying steamships with vessels of three times the cargo capacity. These vessels, he said, not only carry much larger cargoes, but with the improved facilities that have been introduced can load and unload in a much shorter time, the number of men necessary to man them and the net cost of operation being not much greater than in the case of the smaller vessels of fourteen or fifteen years ago. Moreover, the work of the sailors on the lakes has been made less onerous, their pay is larger and their hours of labor shorter than in the old days, and they are today among the best paid laborers of that class in the world.

"The lesson of what has been accomplished on the great lakes," he said, "is that by utilizing the same improved methods we can do something of the same sort on the Atlantic coast with reference to our foreign carrying trade, for there is exactly the same intelligence here as in the lake region."

"In respect to our foreign marine, we have been steadily going downward year after year, the only exception to this being the period when our shipping men were filled with the hope that the Hanna-Frye subsidy bill would be enacted by congress. The railroads of the United States are giving transportation at a cost about one-half of that in foreign countries, Russia excepted, and they are doing it despite the fact that they are paying higher wages and working their employees fewer hours than in any other country. Seeing what could be done in the case of the great lakes by intelligent effort, we were led to form this league, the purpose of which is to try to arouse every patriotic American citizen to the necessity of doing something to place our American merchant marine where it ought to be.

"In forming it we have had in mind several things, including the saving of the \$200,000,000 that we are paying annually to foreign steamship companies for the transportation of our goods to and from other countries. On this and other accounts, we think we are justified in the effort to put this great industry of ours on its feet and see to it that American goods are carried in American

vessels. It is nothing less than a pity and shame that today we haven't even ships to carry the tools and implements with which to construct the new Panama canal. Today we are looking toward the time when our great naval establishment is going to cost us \$150,000,000 a year. I don't know how we are ever going to get the men to man the ships unless we do something for the upbuilding of our merchant marine. Are we to see the time when, for want of men for our fleets, we are to be wiped off the sea like Russia, or are we going to heed the lesson of the little brown men and be supreme upon the ocean like Japan? We must not forget that, whereas in the beginning but 7 per cent of our population lived in our cities, today 35 per cent are living there. This means that we are increasing our home market and building up great manufacturing and industrial centers.

"There must be a proportionate increase in the exportation of our manufactured products from these centers and we have got to have our flag and our lines of communication abroad. Just think of the serious consequences upon the agricultural and industrial interests of the United States if perchance England and Germany should go to war, and we should thus be suddenly deprived of the ships to carry out our merchandise and bring back our imports! What we want is national legislation that will put us on the same plane with all other nations with respect to our merchant marine. The main purpose of this league is not to indorse the shipping bill of Senator Gallinger's committee, or any other measure, but to arouse the thinking people of the United States, to the end that we may come to some definite action looking to the restoration of our flag to the seas."

Senator Gallinger, introduced by Congressman Powers as a public man who had always thrown his whole energy into all good movements, was given cordial reception. In the course of his preliminary remarks, he outlined the work that had been done by the congressional commission on the merchant marine. The committee, he said, had entered upon that work without any prejudices, and has had taken a great amount of testimony in all the great commercial centers of the country, the result being three large volumes of printed testimony and the bill which is to be reintroduced in both houses immediately upon the reassembling of the next congress.

"In this bill," said the senator, "we have made certain suggestions which we believe will at least be the beginning of the rehabilitation of the American merchant marine. Later we hope it will be strengthened and widened by additional legislation. I don't want to be too optimistic, but I will be willing to prophesy that before the next congress ends, that or some similar bill will be enacted into law and something done to remedy the disgraceful condition in which our merchant marine is today. (Applause.)

"It is a reproach to this great country, the leader in wealth and mining and agriculture, and which spends 40 per cent of all the money that is contributed to education, that we are lagging behind all other nations in this respect and doing only 10 or 12 per cent of our own carrying trade. It surely will not continue to be so. It seems to me the patriotism of the American people will some time demand that we shall be somewhere near the head of the nations with respect to our merchant marine. That \$200,000,000 which we are paying annually now to foreign steamship companies should be retained here and given to our own American mechanics.

While I believe we are going to have legislation by congress, after the matter has been fully debated, it will be very much easier for the representatives in congress if public sentiment shall be back of us, especially from the middle west and the prairie states. This league can do much good in this direction, and has already done much good, Mr. Goulder's personal work having been especially valuable. It should be the interests of the American people as against those of foreign countries. The development of our merchant marine on the great lakes certainly has been a marvelous one. During last month alone the tonnage passing through the Soo canal was in excess of 5,000,000 tons. If American enterprise and genius has brought about such a wonderful development on the great lakes, why cannot American genius bring about the same development on the high seas. The reason is that the commerce of the lakes is protected by law, and no foreign ships can engage in our lake traffic. When it comes to the oversea trade, there is no protection for American ships. It is one American industry that has no protection whatever; and yet we are expected to compete with other countries, when it costs 40 to 45 per cent. more to construct ships in the United States. We cannot expect that a similar work can be carried on on the seas unless the government gives some protection to American ships. (Applause.)

In closing, Senator Gallinger agreed with Mr. Goulder that it is a disgrace that we haven't ships to take material to the Panama canal, and said that after that great \$400,000,000 or \$500,000,000 enterprise is completed the American flag will be rarely seen passing through it unless something is done for our merchant marine.

"Our very harbors," he said, "are today being dredged to a depth of 30 to 35 feet at government expense primarily for the benefit of foreign steamships."

He hoped that the day would soon come when an American citizen could travel around the world and see his country's flag on something beside a battleship or the yacht of a millionaire. There was hearty applause when he concluded.

E. C. Plummer of Bath, secretary of the Atlantic Carriers' association, made a brief and effective address, in the course of which he expressed his surprise and disgust at the announcement that the Panama canal commission had decided to purchase two 5,000-ton freight steamships abroad. He said that the American government itself is responsible for this state of affairs.

"I believe we can scare up two 5,000-ton ships for the canal commission if we try. Let us go ahead and build them, even if we have to let the canal wait," he said.

Mr. Plummer gave an interesting account of his visit to some of the foreign shipyards, instituting comparisons between those and the American yards and the personnel of their workmen, and said that, given the proper opportunity, this country can produce steel ships on a wholesale basis just as well as the foreign builders can.

On motion of Eugene P. Carver a vote of thanks was extended to Mr. Goulder. Mr. Carver threw out the suggestion that frequent meetings of the Massachusetts members of the league be held for the purpose of exchanging ideas and information.

Among those present were President Alfred Winsor and Treasurer A. C. Baldwin of the Boston Steamship Co., Henry W. Peabody, President F. T. Bowles of the Fore River Ship & Engine Co., William H. Randall of John S. Emery & Co., Capt. John G. Crowley, Pilot Commissioner John C. Ross, William F. Palmer, President F. S. Pendleton of the Atlantic Carriers' association, General Manager Thomas I. Winsor of the Boston Towboat Co., Capt. William F. Humphrey, Secretary Winthrop L. Mar-

vin of the congressional commission on merchant marine Vice-President Edward S. Cramp of William Cramp & Sons Ship & Engine Building Co. of Philadelphia, Arthur P. Friend, Secretary Daniel D. Morss of the Boston Chamber of Commerce and Herbert C. Hall.

MUST RAISE THE UNION BRIDGE

Secretary Taft has sustained the order to raise the Union bridge at Pittsburg. This bridge crossing the Allegheny at its mouth, has obstructed traffic at that point for many years. Discussing the subject Albert Bettinger, of Cincinnati, chief counsel for the rivermen, said:

"The decision of Secretary Taft declining to interfere with the order issued by his predecessor, Root, to raise the Union bridge spanning the Allegheny river at its junction with the Monongahela and Ohio rivers, is one of vast importance to the commerce of the Pittsburg harbor, as well as to the navigation of the three rivers named. The bridge, which is a low structure, has stood as a closed gate at the mouth of the Allegheny for thirty years, and was erected against the protest of Colonel Merrill, engineer in charge, although at that time the government had not yet fully assumed control of the navigable waterways of the country. The raising of this bridge to seventy feet admits of the free use of the lower part of the Allegheny river by craft of all kinds and extends to that extent the Pittsburg harbor. Just above the portion now opened to full and free navigation the Allegheny is spanned by eight other bridges, all of which are so low as to obstruct navigation when the river rises above moderate stage and proceedings are pending before the secretary of war to have these also raised.

"One of the arguments of the owners of these eight bridges has always been that the raising of them would not serve any useful purpose, so long as the Union bridge at the mouth was allowed to remain. So you see that the raising of the Union bridge was practically a condition precedent to the raising of the other bridges, and on that account also the decision of Secretary Taft is of exceeding importance. The Union bridge case was argued orally before Secretary Taft about a year ago and was finally submitted on printed briefs about six months ago, together with a mass of written and documentary evidence.

"Though the subject was entirely new to him, his decision betrays a thorough familiarity with all the points presented. His consideration of the same amid the multifarious duties recently imposed upon him gives further evidence of the Secretary's wonderful ability to dispatch business and do it well. I understand that he will take the papers in the other eight bridge cases with him on his forthcoming trip to the Philippines, so that he may have something to amuse himself with during his long sea voyage."

The Monarch, chartered by the Standard Oil Co., will, it is expected, leave Philadelphia early in July, carrying the largest cargo of case oil, 2,500,000 gallons in 250,000 cases, that has ever left an American port. The oil is intended for delivery at Japanese ports. The Monarch is a new ship.

Two steamships will be operated on the Canadian-Mexican service. They will be the *Commassie* and the *Dahomey*, each about 1,100 tons net register. The *Commassie*, which is at present in Liverpool, will arrive at Montreal light in time to load general cargo and sail for her first trip July 20. She will be followed later by the *Dahomey*. By the terms of the contract with the Mexican Government vessels may carry passengers and cargo from Canada to Cuba, cargoes and passengers both ways between Mexico and Canada, but on the north bound trips no freight may be taken from Cuba to Canada, as the Mexican government objects to subsidizing a line used to build up a trade between Cuba and Canada.

RAISING THE LEVEL OF LAKE ERIE

Editor Marine Review: A great deal has been said and written regarding raising and holding the level of Lake Erie to its maximum stage (i. e., 575 ft. above tide water) which has heretofore been proposed to be done by a dam or dams at its outlet into Niagara river. I would humbly beg to submit the following plan, which consists of placing a fixed dam across the chute from main (American) shore, to the head of Tonawanda island, a regulating dam from or near the foot of Tonawanda island to Grand island, a regulating dam from Grand island to the head of Navy island, and a fixed dam from the head of Navy island to Canada shore. This would give slack water to those points, and would dispense with three very objectionable locks, i. e., one between lake and Black Rock harbor level, one between Black Rock and river level, and one (which would principally concern the State of New York) between river and Erie Canal level. The Erie canal could be connected with the river by an aqueduct over Tonawanda creek, railroads and other crossings, which would mean slack water to Lockport, and at about 5 ft. higher elevation than designed, which would also make it much easier to bridge said crossings. As that would give about 12 ft. water in the present canal, all that would be needed would be to widen and place embankment at low places, to change it to the proposed barge canal.

This would also dispense with the proposed feeder from Buffalo to Tonawanda, which would require to have far greater capacity than the canal proper, for the reason that a great deal of water is wasted back into the river by the lock at Tonawanda, and would have to have enough left to feed the canal for a long distance. The value of the ground and the expense of construction of said feeder would amount to many millions of dollars, and then it would be a very badly handicapped affair for traffic at best.

Now while I spoke of a regulating dam direct across from the foot of Tonawanda island to Grand island, a somewhat different plan might be taken, either at first or later on, which consists of building a longitudinal dam from the foot of Tonawanda island sloping towards and down say in the middle of the river to say, opposite or even below Lasalle, and across regulating dam to Grand island, thus giving slack water to there, which in addition to other great advantages, would also solve the Niagara ship canal question as far as the lake and river section are concerned, as it would give at least 21 ft. water, and at 11 or 12 ft. higher elevation than any previous design. Said raised section could be connected with the main shore by a partially submerged aqueduct over the low section of the river.

Said longitudinal dam may be honeycombed with numerous wheelpits, having from 10 to 12 ft. head and act as part foundation for hundreds of factory sites, with the waterwheel shafts connected to the machinery direct pure and simple, and at the same time having deep water frontage for shipping.

An immense water power could also be established along Canada shore and all around on Navy island. In fact, all told, about 200,000 H. P. could be gained, having the great advantage that it will not divert any water from the Falls nor be a menace to its scenery.

The chute below the dam between main shore and Tonawanda island would retain its normal level, i. e., about 9 or 10 ft. lower than slack water, would thus act as an outlet for surface and sewer drainage, and as an immense water power could be established there, the tail water of which would rapidly dilute and carry off any pollution. At the same time everything along the main shore at, and below the Tonawandas would be left in its normal condition.

This system giving slack water to Lockport, as aforesaid, I would remark yet that by adopting newly-invented mechanical lifts with tanks say 775 ft. long, 28 ft. wide and 12 ft. deep, a rapid transit system, keeping a train of say 5 barges

intact between Buffalo to Newark (about 100 miles) could be established by a (double) lift of about 65 ft. at Lockport and a (double) lift of about 60 ft. at Rochester. Now, whereas the traffic is much greater east than west, there is much less water displaced in the tanks when ascending, thus elevating a great deal of water automatically, this surplus can be used to operate the machinery of the lifts, in other words the traffic indirectly furnishes the power, so that practically all the water carried by the canal could be used for power for towing by electric traction. Thus trains of barges could be towed between Buffalo and Tonawanda by propellers and in the canal by electricity.

JNO. A. HAFNER.

320 S. Mathilda St., Pittsburg, Pa.

CHICAGO GRAIN REPORT

Chicago, June 27.—Local grain freights were unchanged from last report—the shipping demand and vessel capacity about in equal supply. Rates are ruling steady at 1½ cents corn to Buffalo and Georgian Bay, with 4 cents on corn through to Montreal. Lake and rail interests report package freight traffic to be good. There is continued good activity in corn sales for eastern and export market, and nearby deliveries growing out of July option contracts looking to stimulate improved tone in general lake routing.

Shipments of the week were distributed about as follows: Via all rail lines some 100,000 bu. wheat, 460,000 bu. corn, 750,000 bu. oats; via lake to Buffalo and other American ports of wheat 35,000 bushels, corn 1,500,000 bushels, oats 100,000 bushels; and lake routing to Canada points 420,000 bu. corn and 290,000 bu. oats.

Lake and rail shipments:

	This week.	Last week.	Same week last year.
Wheat	61,728	234,718	275,497
Corn	2,381,411	2,705,811	1,091,500
Oats	1,201,526	1,350,009	624,183
Rye	13,671	403	7,285
Barley	34,220	32,115	21,325
	3,792,556	4,329,806	2,919,856

Shipments since Jan. 1, 1905:

		Same time last year.
Wheat	6,310,447	6,600,282
Corn	41,383,887	28,833,711
Oats	24,452,088	23,034,717
Rye	584,452	770,007
Barley	2,283,115	2,501,588
	75,022,989	61,830,905

Stocks of grain in elevators:

	This week	Last week.	Same week last year.
Wheat	1,527,000	1,775,000	2,708,000
Corn	3,651,000	2,830,000	6,655,000
Oats	3,225,000	3,180,000	1,348,000
Rye	108,000	115,000	453,000
Barley	18,714	28,714	122,000
	7,929,714	7,937,714	11,286,000

GRAIN SITUATION AT DULUTH

Duluth, June 28.—There has been no change in lake rates this week, and wheat Duluth to Buffalo stands at 1½ cents. There are steady shipments and the total stocks at Duluth-Superior are now down to 807,000 bu. wheat and other grains to 7,100,000 bu. Nearly all the wheat belongs to A. D. Thomson & Co., who are marketing it and are making steady shipments to the east. They have some chartered out for this week, but are not making many charters ahead, as the liners are after the stuff and as fast as it is ready for shipment it is placed with them.

GUNBOAT MICHIGAN'S NAME CHANGED

By an order issued at the navy department last week the name of the famous old warship Michigan has been changed to Wolverine. This was done because a new 16,000-ton battleship will be built next year, which has already been given the name Michigan. The old Michigan, now the Wolverine, is being used by the naval reserves of Ohio and Michigan. She is a fourth-rate vessel and is the only representative of the United States on the great lakes. She was built in 1844 at Erie, where Oliver Hazard Perry constructed the squadron which compelled the British ships to strike their colors. The Wolverine was the first metal ship in the navy. Today her plates apparently are as good as when they were turned out of the mills at Pittsburg. She is a seaworthy craft, although as a fighting ship she does not rank with modern vessels. She is 163 ft. in length and carries four 30-pound breech loading rifles, three 3-in. Hotchkiss rapid-fire guns and two Gatlings.

RIVER NEWS

The Internal Waterways Improvement Convention will be held at Cincinnati on Thursday and Friday, June 29 and 30. Delegates will be present from all the internal waterways associations in the country and a date will be fixed for holding a waterways convention either at New York or Washington, later in the year, where resolutions will be asked for more liberal appropriations for internal waterways improvements. The Cincinnati convention is the direct outcome of the Ohio river trip on the steamer Queen City, and was proposed at the banquet tendered the members of the rivers and harbors committee at Cincinnati. The convention will mean much for the improvement of the internal waterways of the country and it is believed that it will result in an early completion of the Ohio river improvements.

James H. Cassidy of Cleveland, secretary of the congressional rivers and harbors committee, has been elected president of the Ohio corporation associated with the Lake Erie & Ohio River Ship Canal Co. of Pittsburg.

All June records for coal shipments by river were broken during the month of June, when 14,000,000 bushels of coal were sent out of the Pittsburg harbor on the two rises during the month. All of the large coal companies took advantage of the high water to ship their accumulated coal out of the harbor and the harbor is at present barren of coal fleets.

PERSONAL

Mr. Charles C. West, general manager Manitowoc Dry Dock Co., Manitowoc, Wis., was married June 10, to Miss Bernice Dunham, Wayne, Ill.

Capt. W. W. Bates has been officially designated as a delegate on the part of the United States to the Tenth International Congress of Internal and Maritime Navigation to be held at Milan, Italy, in September next. Capt. Bates will read a paper on measures adopted and that may be properly enforced by the different nations desirous of keeping the sea in their own commerce. Doubtless he will interest the congress greatly.

Capt. George H. Cottrell of Marine City, who was the master of the steamer Sam Ward when she was hauled over the portage to Lake Superior in 1852, is still hale and hearty, though he is nearing his eighty-ninth birthday.

Mr. R. W. Wilmot head of the big firm of W. G. Wilmot & Co., New Orleans, has sailed for Europe.

Wm. Gardner, naval architect and engineer of the firm of Gardner & Cox, recently dissolved, will complete existing contracts made with the old firm and continue the business as a yacht and vessel broker at No 1 Broadway, New York.

MISCELLANEOUS MATTER

Mr. John F. Wallace, chief engineer of the Panama canal, has resigned owing to differences of opinion with Chairman Shontz and interference from Washington. The commission is also in a state of unrest and actual work upon the canal has practically ceased.

Additional details are at hand of the new monthly Canada-Cuba-Mexico service of the Elder-Dempster Steamship Line. The route, which will be operated by first-class steamships of 4,000 tons deadweight capacity and large passenger accommodations, will touch at Charlottetown, P. E. I.; Halifax, N. S.; Havana, Progreso, Vera Cruz, Tampico and other ports. During the winter the vessels of the new service will operate from Halifax and the line will endeavor to establish a tourist and general passenger traffic to Cuba, Nassau in the Bahama Islands and Mexico. It is also announced that as Sir Alfred L. Jones, head of the firm of Elder, Dempster & Co., now has large interests in the West India Islands, that a new and additional line will shortly be organized, with the assistance of the Canadian government and that of the West Indies, to operate steamships between Montreal and Jamaica, the Windward Islands and Georgetown, Demerara. This line will also probably be extended to Belize, the capital of British Honduras, and Colon.

The Matson lifeboat raft was successfully launched from the deck of the French Line steamship La Savoie recently at the port of New York. This unique life-saving device is the invention of Harry J. Matson, chief steward of La Savoie, and has already had a successful official trial in Havre before the government marine officials. It is 12 ft. long, 9 ft. beam, and 3 ft. high, and is so constructed that either side on which it might fall into the water leaves it in good floating condition. The chief feature of the raft is the simple mechanism by which it can be launched from its cradle. The turn of an iron rod pulls back the triggers which clutch the holding ropes, and instantly the outboard end of the cradle on which the raft rests drops, creating an angle which allows the raft to slip into the sea. There are no davits or falls, as in the case of lifeboats, to get out of order. The whole mechanism is so simple that one man from the captain's bridge can, by merely turning a lever, throw ten life rafts over the side of the ship in a few seconds. This lifeboat raft can accommodate about sixty-five persons at one time.

The supplementary report on the recent accident on the battleship Iowa, called for by the navy department in order to secure the fullest possible investigation of the blowing off of the muzzle of one of the 8-in. guns is understood not to differ materially, in the conclusions reached, from the first report. In substance the report declares that conditions were normal but that the gun, like others of the same type, having been designed for brown powder, was not sufficiently strong for the smokeless powder now used. There remain in the navy not less than forty of the old 8-in. guns of the type of the one which has just proven deficient on the Iowa and their displacement by more modern ordnance adapted to the use of smokeless powder has been frequently advocated. It is claimed, however, that none of the funds appropriated by congress for the coming fiscal year are available for replacing the old guns. Inasmuch as new mounts must be supplied for the new guns it is estimated that not less than \$1,500,000 will be required to replace the old ordnance of this class. Strong representations will be made to the next congress in an effort to obtain such an appropriation and in the meantime powder adapted to the guns will be used exclusively. The recent accident has provided fresh arguments for those naval officials who declare that each ship in the navy should carry a duplicate set of guns in reserve for use in case of emergency.

FOUNDER OF JAPANESE NAVY

Editor Marine Review.—The founder of the Japanese navy was Count Katsu Awa, who died in January, 1899. At that time the Japan Monthly Evangelist said: "In his death Japan loses the most venerable figure in her public life. It was this statesman who became the first captain of the Japanese navy, established the first naval college in her history, and was made the first minister of marine. More than that, it was largely owing to the wise and energetic statesmanship of this 'Bismarck of Japan' that the restoration of the Mikado's empire was effected without bloodshed."

It was in recognition of this work that Katsu Awa was made a peer, a Count, a privy counselor, and a month or so before his death the Mikado also decorated him with the Grand Cordon of the Rising Sun.

In his message to the bereaved family, the Mikado bore testimony to Katsu Awa being the founder of the Japanese navy, by saying: "With wonderful foresight the deceased encouraged during the last days of the Tokugawa regency (Shogun), the creation of a navy for national defense."

The circumstances under which Katsu Awa laid the foundation of the Japanese navy are of peculiar interest, at this time, when that navy has so forcibly impressed its strength on the world's mind. Beginning at the bottom, Katsu Awa worked his way up from position to position, till in 1853, when he was 32 years old, the Shogun (Tycoon) made him president of the naval training school at Nagasaki. This was just one year before our Comdr. Perry made his appearance in the Bay of Uraga.

"At this early period," says Prof. E. Warren Clark, late of the Japanese Imperial University of Tokyo, "only the Dutch were permitted to come to Japan. They had a little concession of a dozen acres or so, called Dezima, at Nagasaki. It is separated from the mainland by a moat, has substantial stone buildings and warehouses like those in Holland, and in walking the short and narrow streets one might well imagine himself in the land of dykes."

It was here that Katsu Awa had his first naval training school. He had a faculty of six Dutch officers, and about 40 students. The school was creditably conducted, taught practical gunnery (very practical gunnery these days) producing graduates, some of whom have been heard from, notably Admiral Ito and Gen. Saigo. Katsu Awa was also the primary instructor of Admiral Togo, the Nelson and Farragut of Japan.

The first illustration of steam power at sea which Katsu Awa experienced was in 1854, when he saw Comdr. Perry's ships coming up the Bay of Yeddo against wind and tide. It was then he said: "People who can make ships that sail against wind and tide are not such barbarians after all." It is noteworthy that while we with our century and a quarter of national existence have until recent years been calling the Japanese "heathen," they with their 20 centuries of history have also until recent years classed us as "barbarians." We understand each other better now. "Heathen" Japan and "barbarian" America are setting a pace which the rest of the world find it hard to keep up with.

Later, on hearing the salute of howitzers on Perry's small boats, Katsu Awa added: "People who can manifest such power and such patience at the same time—when we are trying to thwart them in their purpose—are a people whose friendship is worth cultivating." To good effect has Japan cultivated American friendship since those words were uttered by Japan's Bismarck.

Prof. Clark says: "The great event of Katsu's life, from a nautical point of view, was soon to happen. He was about to become a second Columbus, and discover America. He actually sailed, or rather steamed, to San Francisco in a vessel of his own, though it was only of 250 tons burden." It was in 1858, when the permanent treaty between the United States

and Japan was to be ratified. He secured the Tycoon's permission to accompany and "protect" in his "tugboat" the Japanese ambassador and his suite, who were carried to San Francisco on the United States warship, Powhatan. This he did, funny as it may seem in these days of 15,000 ton warships. His boat was built in Holland, was 162 ft. long, 24 ft. wide, had a nominal 100 H. P., carried 12 popguns, and was called the Kaurin Maru.

That was the first Japanese warship—at least to go beyond the waters of Japan. That was the precursor of Togo's mighty fleet which has annihilated the two mightier fleets of Russia. And all this naval progress by Japan sprang out of Comdr. Perry's morning call at the Sunrise Kingdom only 51 years ago.

Thirty-seven days' sailing with an unskilled crew and in rough weather, brought the belligerent little craft to San Francisco. This voyage taught Japan how big the ocean is, and how to manage steamships and warships. How thoroughly Japan has learned the entire lesson recent events tell, and history will record.

Though San Francisco was much smaller than it is now, the voyage taught Japan that here lived a Nation "whose friendship," as Katsu Awa said, "was worth cultivating." The famous Japanese teacher, Fukuzawa, also went on this cruise, and ably taught its lesson to his countrymen.

On his return from the United States, Katsu Awa was appointed president of the naval college at Kobe. It was there that he instructed the late Count Matsu, the present Admiral Ito, and men of similar character and influence. He constructed fortifications of modern type, introduced European methods, insisting that the separated ships of the Shogun and feudal lords should be unified into one great navy, the navy, brought up to date, which on May 27 and 28 last made Japan's national existence permanently secure.

In June, 1862, Katsu Awa was made president of the naval college at Yeddo, and in August of the same year he was promoted to be minister of marine. Advanced plans for naval extension were adopted and Hiogo was selected by the Shogun on a personal visit—an unheard of thing in Japan—as a naval base. From all this, before Katsu Awa died in 1899, came that revelation of naval strength, Yokosuka, on the bay south of Yokohama, with its buildings like those of the Brooklyn navy yard.

There these little Japanese lift massive steel turrets from the decks of battleships and deposit them as deftly and gently as a cheese box on the shore. There they patched up holes made by their own 13-inch-shells in the captured Chinese battleship, Chin Yen, as easily as if repairing an old lacquer tray. There Admiral Togo's fleet was secretly repaired, says Prof. Clark, and waited to welcome the Russian Baltic fleet. It has welcomed it.

All honor to the memory and work of Katsu Awa, the founder of the Japanese navy.

WALTER J. BALLARD.

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The immense floating dry dock Dewey, recently completed for the United States navy by the Maryland Steel Co. at Sparrows Point in the Patuxent river, near Solomons island, was tested last week, and answered perfectly every demand upon it. The cruiser Colorado, 14,000 tons, was raised and will remain in the dock for twenty-four hours. The Dewey was sunk until the deck was twenty-eight feet under water. This required an hour and six minutes. The Colorado was then towed in by tugs and at 3:15 P. M. the pumps were started. At 5:30 the keel of the cruiser was out of the water and half an hour later the deck of the dock showed clear. The pumping was continued until this was two feet above the surface. Capt. Adolph Marix, of the Minneapolis, president of the board in charge of the test, pronounced it a perfect success.



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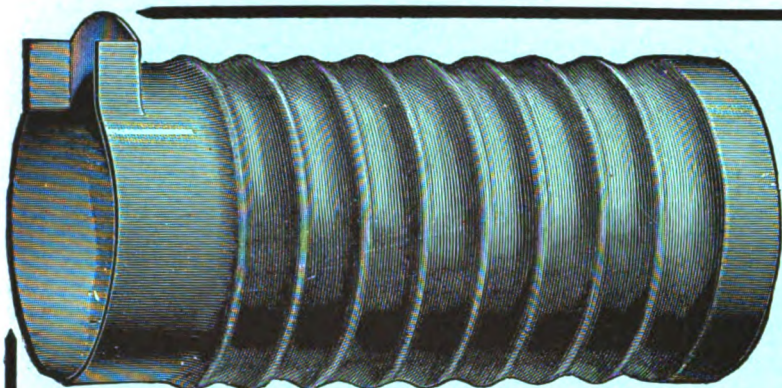
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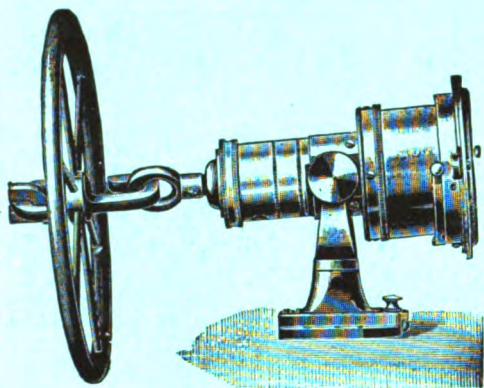
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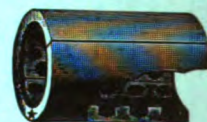
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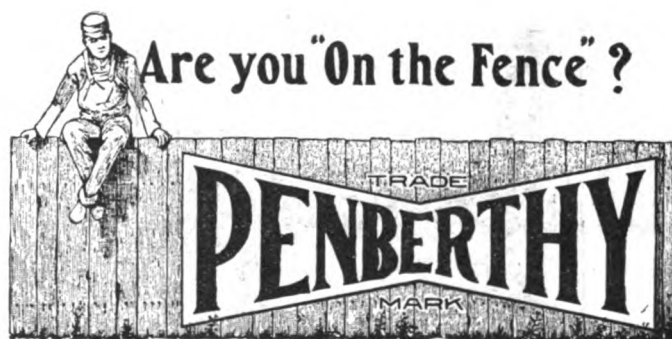
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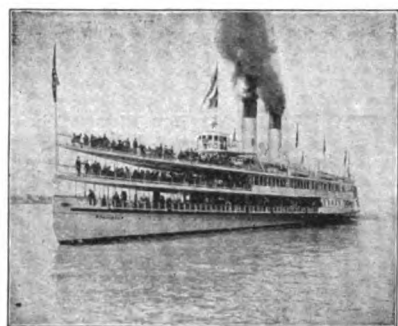
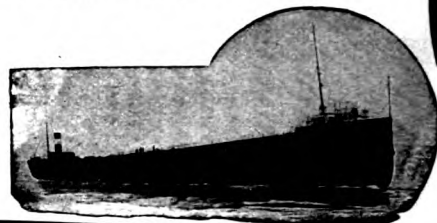
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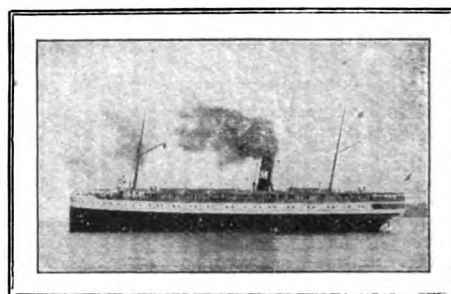
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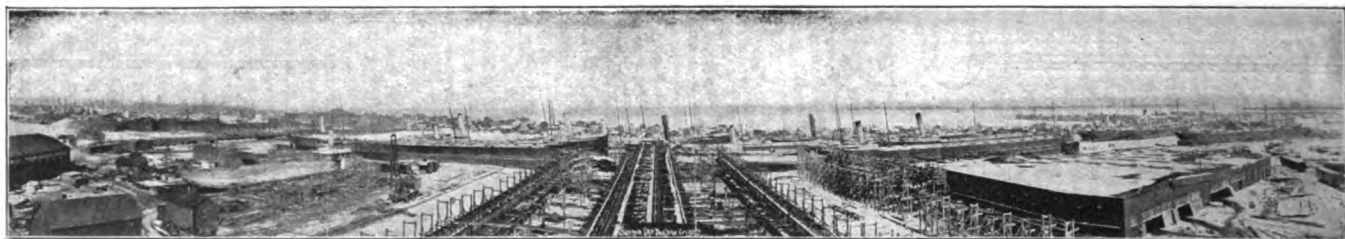


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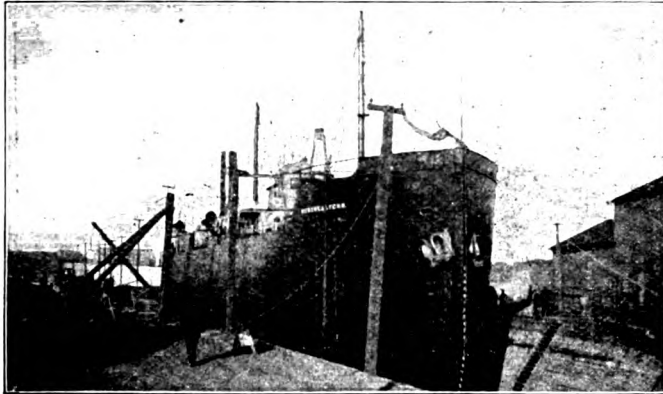
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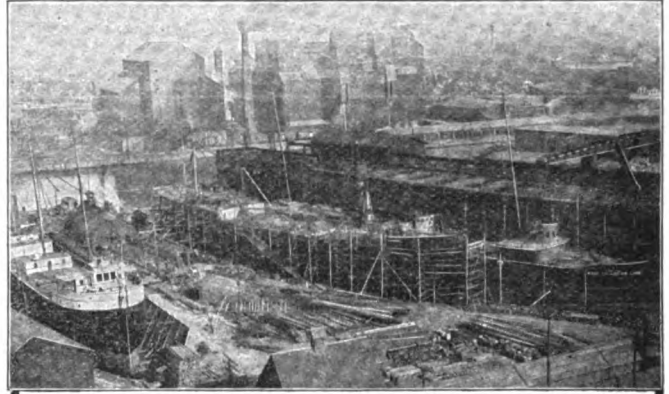
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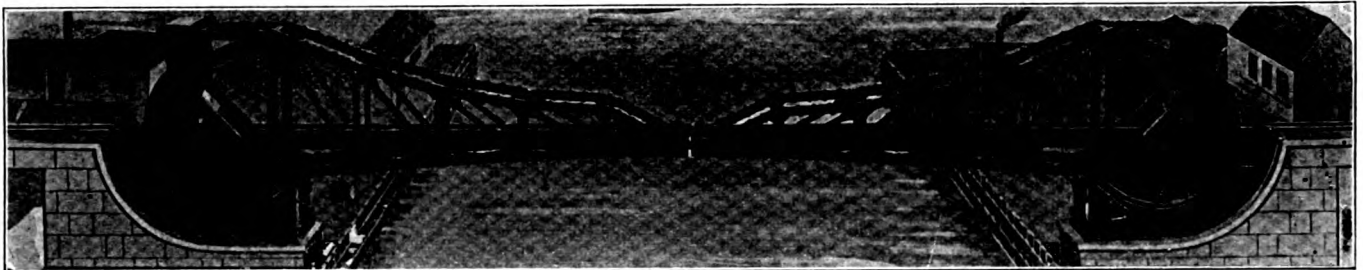
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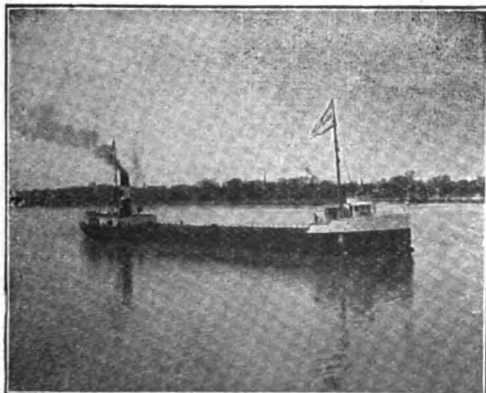


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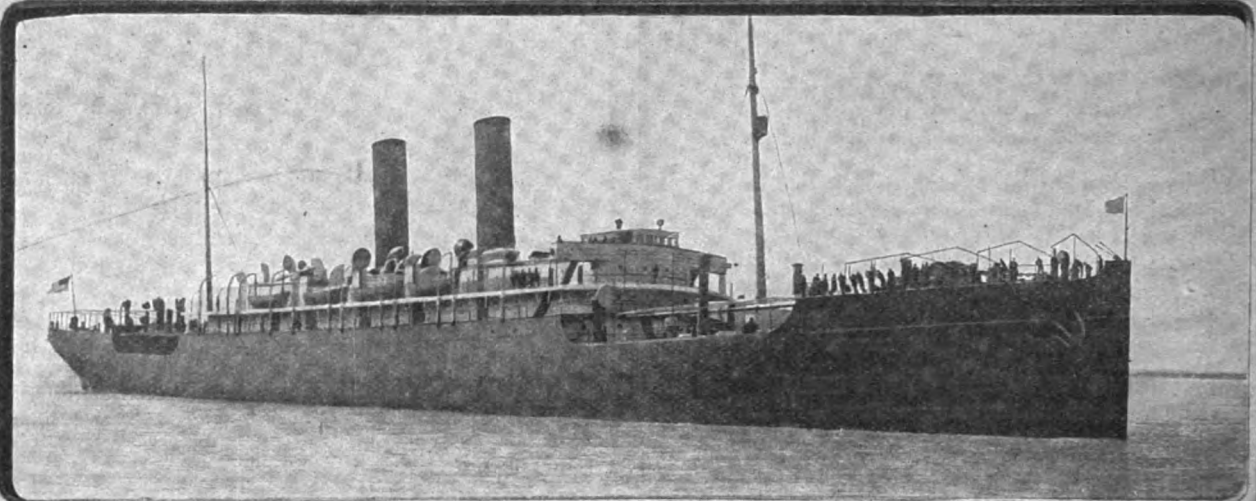
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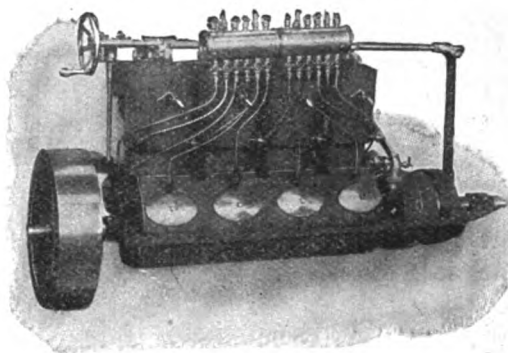
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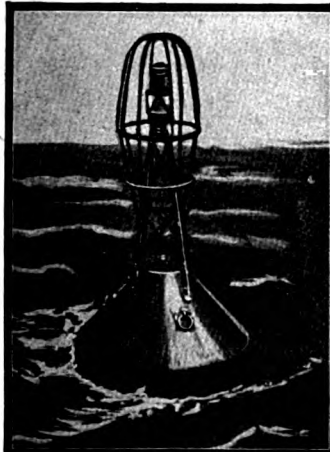
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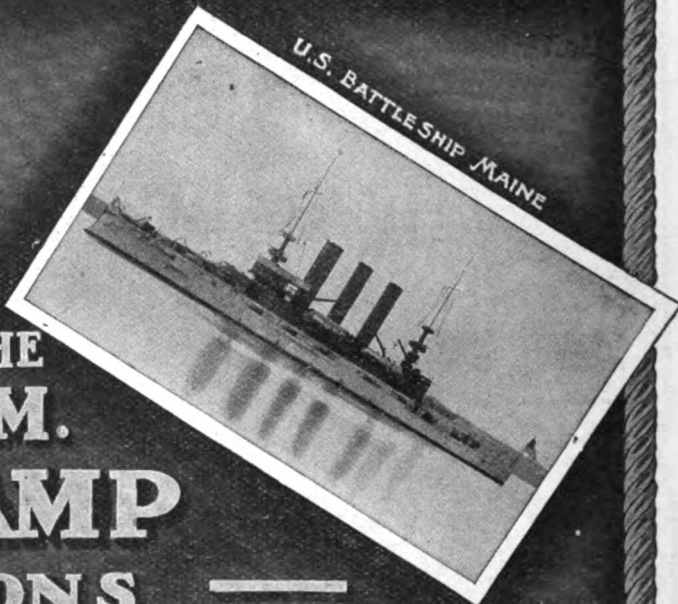
160 Broadway,

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CLYDE LINE APACHE



U.S. BATTLESHIP MAINE



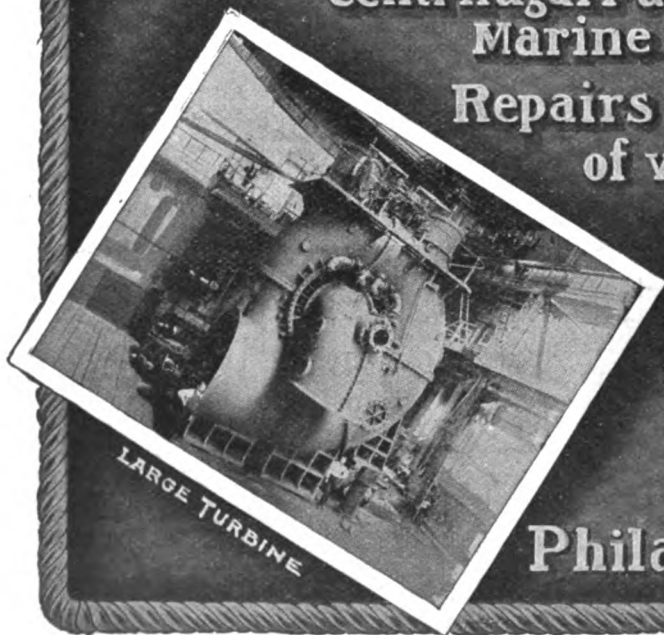
THE
WM.
CRAMP
— & SONS —
SHIP & ENGINE BUILDING Co.
ESTABLISHED 1830

I.P. MORRIS COMPANY
(ESTABLISHED 1829)

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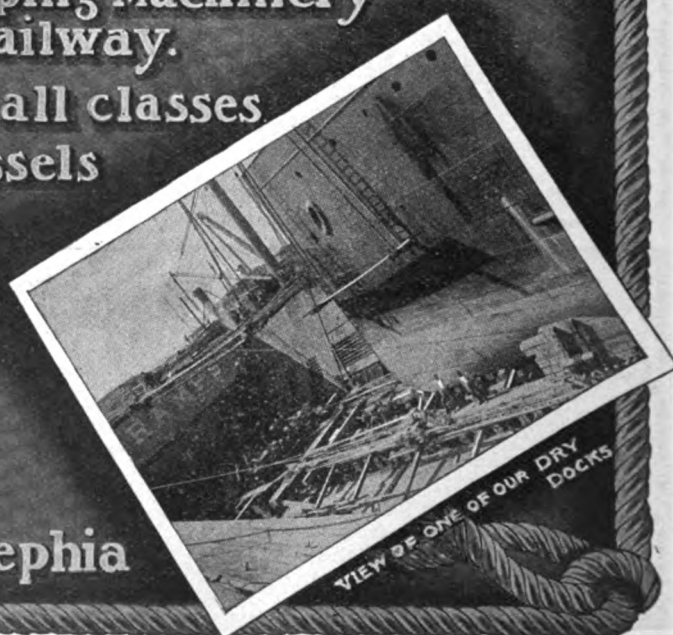
WARSHIPS AND MERCHANT STEAMERS
Pumping, Blowing and Hoisting Engines, Dry Docks
Vertical and Horizontal Turbines
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Repairs to all classes
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LARGE TURBINE



Philadelphia

VIEW OF ONE OF OUR DRY DOCKS



CLEAN BOILERS

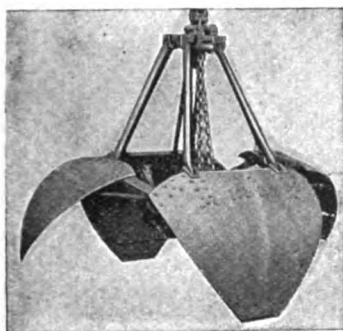
Dearborn Water Treatment made to suit the case. Takes off the scale, keeps it off, stops corrosion and foaming. Send gallon of water for analysis.

DEARBORN DRUG & CHEMICAL WORKS

G. R. CARR,
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16 BRANCH OFFICES IN THE U. S.

227-234 Postal Telegraph Bldg., CHICAGO.

KIESLER AUTOMATIC BUCKETS

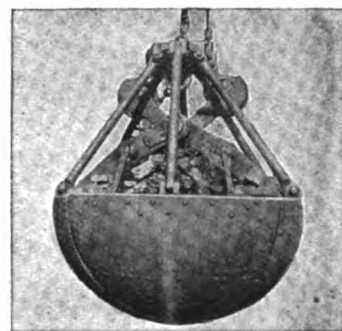
Orange Peel
Open

Orange Peel and Clam Shell Types
for handling Coal, Iron Ore and Excavating

We guarantee our Orange Peel to always fill in large lump Soft Coal and Iron Ore. Has two flat lips and will not damage boats or cars. Are from 30 to 50% lighter than any other buckets. Digging ability due to powerful system of leverage.

Write for Catalogue and Prices.

MAYO & BAILEY 1548 1st Nat'l Bank Bldg.
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Orange Peel Closed
showing load

THE STANLEY B. SMITH COAL AND DOCK CO.,
TOLEDO HARBOR, TOLEDO, OHIO.

1,800 Feet of Dock.

6 McMyler Derricks.

Capacity 3,000 Tons Daily.

Fuel Lighters. —"KANAWHA."
—"PENNSYLVANIA."
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Docks. —PENNSYLVANIA R. R.
—HOCKING VALLEY R. R.
—TOLEDO AND OHIO CENTRAL R. R.

SMITH'S COAL DOCK, Detroit River, DETROIT, MICH.

12 Pockets.

Platform.

Low Dock.

Operated by STANLEY B. SMITH & CO.

MARINE SUPPLY COMPANY—STORE AND ICE HOUSE ON DOCK.

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GENERAL OFFICE, LAKE DEPARTMENT, PERRY-PAYNE BUILDING, CLEVELAND, OHIO

Steamboat Fueling Facilities at Various Points on the Great Lakes

CLEVELAND HARBOR { 4 Car Dumpers.
3 Lighters.

FAIRPORT HARBOR { 1 Car Dumper.
1 Lighter.

ERIE HARBOR { 1 Car Dumper.
Fuel Pockets.

ASHTABULA HARBOR { 1 Car Dumper.
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DETROIT RIVER BRANCH { Docks and Pockets at
Sandwich and Amherstburg.

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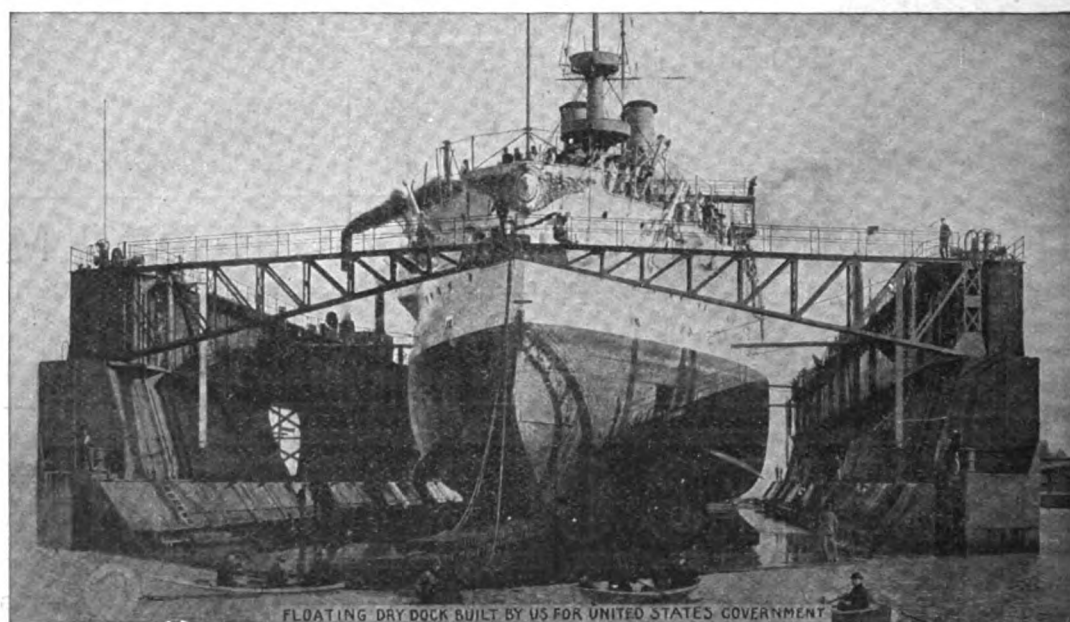
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PITTSBURG AND YOUGHIOGHENY COAL

MARYLAND STEEL COMPANY

BUILDERS OF STEEL STEAMSHIPS,
TOW BOATS, SAILING VESSELS,
BARGES AND STEAM CRAFT
OF EVERY DESCRIPTION

STEEL FLOATING DRY DOCKS
CAPABLE OF DOCKING
THE LARGEST VESSELS



FLOATING DRY DOCK BUILT BY US FOR UNITED STATES GOVERNMENT

SPARROW'S POINT,
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THE NICLAUSSE BOILER.

The largest merchantmen in the world, the S. S. Minnesota and Dakota, of 33,000 tons and 11,000 H. P. each, are equipped with Niclausse Boilers.

641,000 HORSE POWER IN THE NAVIES OF ELEVEN NATIONS.

THE NEW JAPANESE CRUISERS, KATORI AND KASHIMA, OF 16,000 H. P. EACH, AND IN THE UNITED STATES NAVY THE ARMORED CRUISERS PENNSYLVANIA AND COLORADO, 23,000 H. P. EACH, AND THE BATTLESHIPS GEORGIA AND VIRGINIA, 19,000 H. P. EACH, WILL BE FITTED WITH THESE BOILERS.

THE ONLY WATER-TUBE BOILER SUCCESSFULLY USED AND PROVED IN LARGE SHIPS.

Requires no space at sides or rear—cleaned from the front.

Employs no tube-caps—tubes can readily be withdrawn without mutilation.

FORGED STEEL THROUGHOUT.

THE STIRLING COMPANY, General Offices, Trinity Building, NEW YORK.

THE ROBERTS SAFETY WATER-TUBE BOILER CO.

Manufacturers of
High Grade

Marine Water Tube Boilers

Generators of the Highest Quality of Steam

NEARLY 1500 IN USE

Send for circulars
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LUNKENHEIMER BRASS "POP" SAFETY VALVES.

POSITIVELY RELIABLE



**Very Sensitive to Excessive
Pressures
Will not Stick, Pound or Leak.**

IF YOUR LOCAL DEALER CANNOT
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Largest Manufacturers of
ENGINEERING SPECIALTIES IN THE WORLD

MAIN OFFICES AND WORKS CINCINNATI, OHIO, U. S. A.

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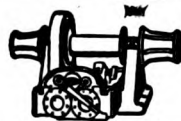
We also manufacture a Complete Line of Iron & Brass
Valves, Injectors, Water Columns, Whistles, Oil & Grease
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GASOLINE MARINE ENGINES

Suitable for all Boats from 3 to 200 HP.
Over 100 in successful use.

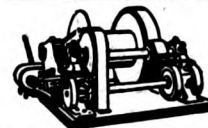
Also the well known and always
reliable Woolters Gas or Gasoline
Stationary Engines.



HOISTING ENGINES

Of all kinds and sizes, and
for all purposes, especially
for ship use.

Docking and Hauling Engines
and Wire Rope Windlasses.



AUTOMATIC TOWING MACHINES

Somewhat the cheapest, and
altogether the best. Positively
guaranteed.

Automatic Fog Whistle Machines
Steam Steering Engines.

FOR THESE AND OTHER WELL KNOWN SPECIALTIES ADDRESS ALL INQUIRIES TO.

THE CHASE MACHINE CO. Engineers and Machinists, CLEVELAND, OHIO.

New York Shipbuilding Company

Main office and works, Camden, N. J., New York office No. 1 Broadway

Builders of
SHIPS — ENGINES — BOILERS
HEAVY MACHINERY



Launch of "Mongolia," Pacific Mail S. S. Co., July 25, 1903.
615 feet long, 65 feet beam, 51 feet deep.

Best Facilities for Repair Work

**Pneumatic and Electric Tools;
ample wharfage accomodation.**

100 ton crane.

Repairs done under shelter.

Commissioners' Sale

of the Shipbuilding Plant and other
property of the William R. Trigg Co.

By N. W. BOWE & SON, Real Estate Auctioneers, Richmond, Va.

By virtue of a decree of the Chancery Court of the City of Richmond, Virginia, entered on the 23rd day of May, 1905, in the suit of S. H. Hawes & Co. vs. William R. Trigg Company et als., the undersigned, who were appointed Special Commissioners for that purpose, will proceed to sell, by public auction, on the premises, Richmond, Virginia, to the highest bidder, on

Monday, the Tenth Day of July, 1905, at 10 o'clock, a. m.

free of all liens and encumbrances whatsoever, except the easements and burdens hereinafter mentioned, all and singular the following estates, lands, properties, rights, privileges, and franchises, to-wit:

All that certain lot or parcel of land, with the buildings and improvements thereon erected, comprising the ship yards, ship building plant, boundaries, shops, railways, manufactories, offices, piers, wharves and docks of the William R. Trigg Co., situate in the city of Richmond, Virginia, more particularly described in two certain deeds of trust made by the William R. Trigg Co. to the Commercial Trust Co., of Philadelphia, trustee, dated June 1, 1901, and to the Richmond Trust & Safe Deposit Co., trustee, dated June 14, 1902, respectively.

The property will be first offered in parcels, as follows:

FIRST—The Richmond Dock, with all rights, easements, privileges and appurtenances thereto belonging, including the franchises of the Richmond Dock Co., together with so much real estate not covered by water as is necessary and appurtenant to its use, as set out and defined in deed dated the first day of June, 1901, from the Chesapeake & Ohio Railway Co. to the William R. Trigg Co., recorded in the clerk's office of the chancery court of the city of Richmond, deed book 171-A, page 245, and subject to the burdens and obligations fixed in said deed.

SECOND—Lot No. 1, with the two (2) office buildings thereon:

Lot No. 2, with the machine shop thereon, together with all the machinery, shafting, motors, cranes and hand and small tools now contained therein;

Lot No. 3, with the pattern shop thereon, together with all machinery, shafting, motors and hand and small tools now contained therein;

Lot No. 4, with the foundry building thereon, together with all machinery, shafting, motors, cranes, cupolas and hand and small tools now contained therein;

Lot No. 5, with the Smith shop thereon, together with all machinery, shafting, motors, cranes and hand and small tools now contained therein;

Lot No. 6, with the bending shed and anglesmith shop thereon, together with all machinery, shafting, motors and hand and small tools now contained therein;

Lot No. 7, with the mold loft thereon, together with all machinery, shafting, motors and hand and small tools now contained therein;

Lot No. 8, with the shipfitters' shed thereon, together with all machinery, shafting, motors and hand and small tools now contained therein;

Lot No. 9, with the carpenter and joiner shop thereon, together with all machinery, shafting, motors and hand and small tools now contained therein;

Lot No. 10, being a vacant piece or parcel of land containing three (3) acres, more or less, lying between the Smith shop and the bending shed;

Lot No. 11, being all of the unoccupied real estate lying east of lot No. 9, and containing fourteen (14) acres, more or less, on which said lot is located a launching basin and ship lock.

The exact location, together with their metes and bounds, of the aforesaid tracts of land will appear from the plats in the possession of the undersigned special commissioners and the auctioneer, access to which is open to the public, and blue prints of which will be furnished to any party applying for the same.

THIRD—The said special commissioners will then proceed to offer

separately each of the aforesaid lots of land, with the buildings thereon as above indicated, *without* the machinery, tools, etc., contained therein, but with the appliances for electric lighting, wiring for power, automatic sprinklers and heating appliances.

FOURTH—The machinery, shafting, motors, cranes and hand and small tools contained in each of the aforesaid buildings in separate parcels, and distinct from the buildings.

FIFTH—All cranes, cableways, shear legs, derricks and other machinery and yard equipment outside of the aforesaid buildings, including a floating machine shop and a floating derrick.

SIXTH—All of the real estate comprising the plant of the William R. Trigg Co., except the dock with its appurtenances as above described, containing about 30 acres, more or less, together with the buildings thereon.

All of the above real estate, including the aforesaid dock, is sold subject to certain easements, rights, licenses, and privileges reserved by the Chesapeake & Ohio Railway Co. in two certain deeds conveying portions of the aforesaid property to said William R. Trigg Co., dated the 1st of June, 1901, and recorded in the clerk's office of the chancery court of the city of Richmond, in deed book 171-A, pages 245 and 258, and subject to certain easements, rights, licenses and privileges set out in two certain deeds between said William R. Trigg Co. and the Southern Railway, each dated the 21st day of November, 1904, recorded in the aforesaid clerk's office in deed book 183-B, pages 315 and 320.

SEVENTH—The said special commissioners will then proceed to offer as a whole the aforesaid land, dock, buildings, machinery, fixtures, equipment and property of every sort, kind and description above referred to, reporting to the court for its acceptance or rejection, the bid or bids aggregating the largest amount of purchase money.

TERMS—The terms of said sale, in the event that the said property is sold as a whole, are as follows: \$50,000 in cash, of which \$10,000 shall be paid to the said special commissioners by the purchaser or purchasers on the date of said sale, and \$40,000 when said sale shall have been confirmed by the court; the balance of the purchase money on equal credits of one, two and three years; the purchaser to execute negotiable notes, bearing interest from the date of the confirmation of said sale, for the deferred payments; with the right in the purchaser to pay the whole amount of purchase money in cash, and to anticipate the due date of any or all of said notes. The title to the property to be retained by the court until the whole of the purchase price is paid, and a deed directed to be executed to the purchaser.

If sold in parcels, then the following are the terms: As to all articles of personal property, or property removable under said decree, all cash; as to the real estate, or any parts thereof, one-fourth of the purchase price in cash, and the balance on equal credits of one, two and three years, the deferred payments being evidenced by purchaser's notes, bearing interest from date of confirmation of sale, with the right in the purchaser to anticipate the due date of any or all of said notes, and title to be retained until the entire purchase money is paid and conveyance ordered by the court.

For further information apply to either of the undersigned Special Commissioners or to the Auctioneer.

BEVERLEY B. MUNFORD

LILBURN T. MYERS

} Special Commissioners.

The bond required of the Special Commissioners by the above named decree has been duly executed.

CHARLES O. SAVILLE,

Clerk of the Chancery Court of the City of
Richmond.

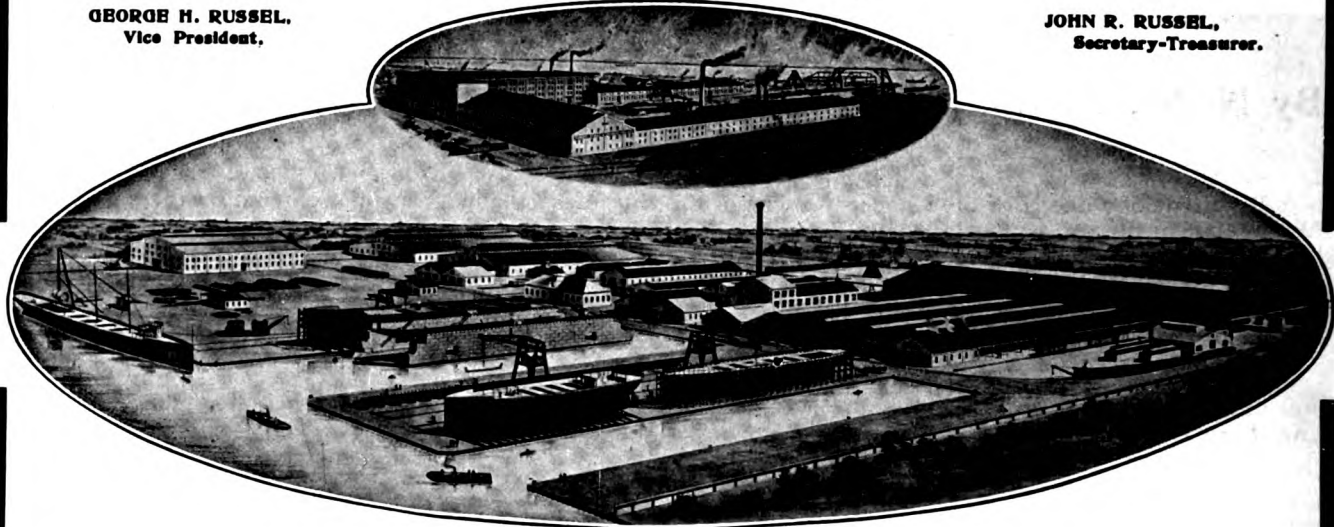
GREAT LAKES ENGINEERING WORKS

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ANTONIO C. PESSANO, President and Gen. Mgr.

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Floating Dock**

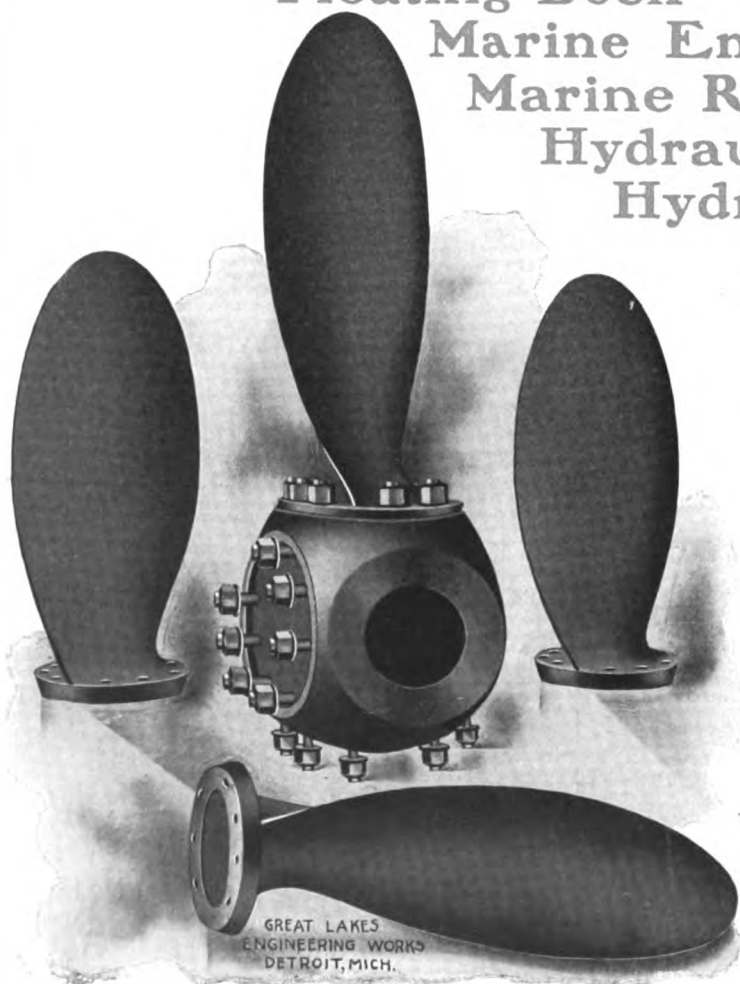
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GREAT LAKES
ENGINEERING WORKS
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Semi-Steel Propeller Wheels==

**made either Solid or im-
proved Sectional Type.**

**Our Wheels possess
many points of merit not
found in other makes.**

**Quick deliveries
guaranteed.**

BELLEVILLE WATER-TUBE BOILERS

NOW IN USE (MARCH, 1905)

On Board Sea-going Vessels, NOT INCLUDING New Installations Building or Erecting.

French Navy	-	-	-	-	-	-	-	-	360,560 H. P.
English Royal Navy	-	-	-	-	-	-	-	-	966,300 "
Russian Imperial Navy	-	-	-	-	-	-	-	-	253,800 "
Japanese Imperial Navy	-	-	-	-	-	-	-	-	122,700 "
Austrian Imperial Navy	-	-	-	-	-	-	-	-	56,700 "
Italian Royal Navy	-	-	-	-	-	-	-	-	32,500 "
Chilian Navy	-	-	-	-	-	-	-	-	26,500 "
Argentine Navy	-	-	-	-	-	-	-	-	13,000 "
The "Messageries Maritimes" Company	-	-	-	-	-	-	-	-	87,600 "
Chemins de fer de l'Ouest: (The French Western Railway Co.)	-	-	-	-	-	-	-	-	Steamships
plying between Dieppe and Newhaven	-	-	-	-	-	-	-	-	18,500 "
Compagnie Generale Transatlantique	-	-	-	-	-	-	-	-	1,500 "
Total Horse Power of Boilers in Use									1,939,660

Société Anonyme des Etablissements Delaunay Belleville

CAPITAL: 8,000,000 FRANCS

Works and Dock Yards of the Ermitage at Saint-Denis (Seine), France.

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Structural Steel, Tubes, Sheets, Plates,
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Cam Lever Pop Safety Valves
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Steam Gauges.

give highest efficiency and durability.
Specify them and get the best.

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See accompanying index of Advertisers for full addresses of concerns in this directory.

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Mietz, Aug.New York.

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Marine Mfg. & Supply Co.....New York.

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Detroit Ship Building Co.....Detroit.
Great Lakes Engineering Works.....Detroit.
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East End Boiler Works.....Detroit.
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Fore River Shipbuilding Co.....Quincy, Mass.
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Great Lakes Engineering Works.....Detroit.
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Detroit Ship Building Co.....Detroit.
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Thropp & Sons, John E.....Trenton, N. J.

WANTED and FOR SALE Department.**PROPOSALS.**

U. S. ENGINEER OFFICE, Montgomery, Ala., May 31, 1905. Sealed proposals for dredging "Link Channel," Apalachicola Bay, Fla., and Carrabelle Bar, Fla., will be received here until noon July 1, 1905, and then publicly opened. Information furnished on application. J. B. CAVANAUGH, Capt. Engrs. June 29

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Detroit, Mich., until 3 o'clock p. m., July 31, 1905, and then opened, for furnishing the materials and labor of all kinds necessary for the construction of a wharf, oil-house, and buoy shed for a light-house depot on Minnesota Point, Minn., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to MAJOR LANSING H. BEACH, Corps of Engineers, U. S. A., Engineer. July 13

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 Craig Ship Building Co.....Toledo, O.
 Dake Engine Co.....Grand Haven, Mich.
 Detroit Ship Building Co.....Detroit.
 Fletcher, W. & A. Co.....Hoboken, N. J.
 Fore River Shipbuilding Co.....Quincy, Mass.
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 Hall Bros.....Philadelphia.
 Lockwood Mfg. Co.....East Boston, Mass.
 Marine Iron Works.....Chicago.
 Maryland Steel Co.....Sparrows Point, Md.
 Mietz, Aug.....New York.
 Milwaukee Dry Dock Co.....Milwaukee.
 Mosher, Chas. D.....New York.
 Moulton Steering Engine Co.....New York.
 Newport News Ship Building Co.....Newport News, Va.
 New York Shipbuilding Co.....Camden, N. J.
 Northwestern Steam Boiler & Mfg. Co.....Duluth, Mich.
 Quintard Iron Works Co.....New York.
 Koach's Ship Yard.....Chester, Pa.
 Sheriffs Mfg. Co.....Milwaukee.
 Superior Ship Building Co.....Superior, Wis.
 Thropp, J. E. & Sons Co.....Trenton, N. J.
 Trout, H. G.....Buffalo.

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Kreer & Parsons.....Chicago.

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 Kieley & Mueller.....New York.
 Lunkenheimer Co.....Cincinnati.
 New York Belting & Packing Co.....New York.
 Northwestern Steam Boiler & Mfg. Co.....Duluth, Minn.

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 Kidd, Joseph.....Duluth, Minn.
 Kreer & Parsons.....Chicago.
 Lovejoy, H. O.....Buffalo.
 Mosher, Chas. D.....New York.
 Nacey, James.....Cleveland.
 Rice, Henry.....Buffalo.
 Roelker, H. B.....New York.
 Wood, W. J.....Chicago.

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 Ross Valve Co.....Troy, N. Y.

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Safety Fire Extinguisher Co.....New York.

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General Electric Co.....Schenectady, N. Y.

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 Sutton Co., C. E.....Toledo, O.

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 Fore River Shipbuilding Co.....Quincy, Mass.
 Macbeth Iron Co.....Cleveland.

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 Ironville Dock & Coal Co.....Toledo, O.
 Parker Bros. Co., Ltd.....Detroit.
 Pickands, Mather & Co.....Cleveland.
 Pittsburgh Coal Co.....Cleveland.
 Smith, Stanley B., & Co.....Detroit.
 Smith Coal & Dock Co., Stanley B. Toledo, O.

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Link Belt Machinery Co.....Chicago.

FURNACES FOR BOILERS.

Continental Iron Works.....New York.

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Safety Car Heating & Lighting Co.....New York.

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 Georgian Bay Engineering Works.....Midland, Ont.

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Ashton Valve Co.....Boston.
 Lunkenheimer Co.....Cincinnati.

GAUGES, WATER.

Bonner Co., Wm. T.....Boston.
 Lunkenheimer Co.....Cincinnati, O.

GRAPHITE.

Dixon Crucible Co., Joseph.....Jersey City, N. J.

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Chase Machine Co.....Cleveland.

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 Mietz, Aug.....New York.

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Falls Hollow Staybolt Co.....Cuyahoga Falls, O.

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Great Lakes Engineering Works.....Detroit.

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 Hutchinson & Co.....Cleveland.
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 McCurdy, Geo. L.....Chicago.
 Mitchell & Co.....Cleveland.
 Parker Bros. Co., Ltd.....Detroit.
 Peck, Chas. E. & W. F.....New York & Chicago.
 Prindiville & Co.....Chicago.
 Richardson, W. C.....Cleveland.
 Sullivan, D. & Co.....Chicago.

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Sutton Co., C. E.....Toledo, O.

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Bourne-Fuller Co.....Cleveland, O.
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 Pickands, Mather & Co.....Cleveland.

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 Marine Iron Works.....Chicago.
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LOGS.

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 Also Ship Chandlers.

LUBRICATING GRAPHITE.

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 Lunkenheimer Co.....Cincinnati.

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 Lovejoy, H. O.....Buffalo.
 Mosher, Chas. D.....New York.
 Nacey, James.....Cleveland.
 Rice, Henry.....Buffalo.
 Wood, W. J.....Chicago.

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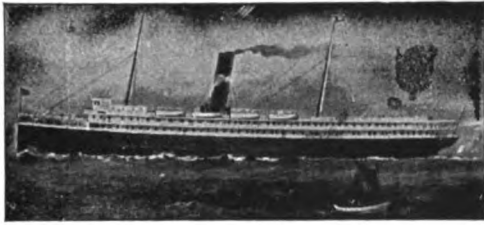
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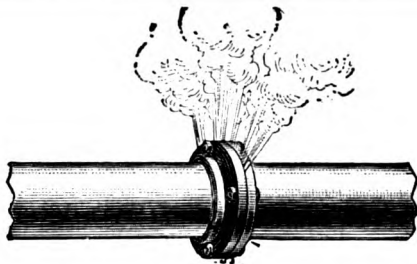
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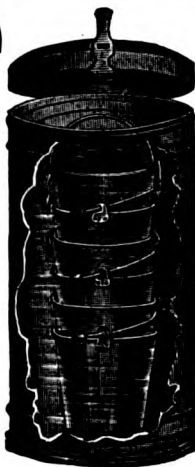
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IV. Weights and Stowages.	XII. Lloyd's and British Corpora- tions.
V. Statical Stability.	XIII. Lloyd's Rules and B. C. Rules.
VI. Gravity—Trim—Launching.	XIV. The Ship in Detail.
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 Sullivan, M.....Detroit

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 Roelker, H. B.....New York.
 Sheriffs Mfg. Co.....Milwaukee.
 Superior Ship Building Co.....Superior, Wis.
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 Trout, H. G.....Buffalo.

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 Marine Iron Works.....Chicago.
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RANGES.

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 Roelker, H. B.....New York.

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Great Lakes Register.....Cleveland.

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 Georgian Bay Engineering Works.....Midland, Ont.

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 Crane Co.....Chicago.
 Lunkenheimer Co.....Cincinnati.

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 Upson-Walton Co.....Cleveland.

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See Wrecking Companies.

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Falls Hollow Staybolt Co., Cuyahoga Falls, O.

SHEARS.

See Punches, and Shears.

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 Detroit Ship Building Co.....Detroit.
 Fore River Shipbuilding Co.....Quincy, Mass.
 Great Lakes Engineering Works.....Detroit.
 Lockwood Mfg. Co.....East Boston, Mass.
 Maryland Steel Co.....Sparrows Point, Md.
 Milwaukee Dry Dock Co.....Milwaukee.
 Newport News Ship Building Co.....Newport News, Va.
 New York Shipbuilding Co.....Camden, N. J.
 Roach's Ship Yard.....Chester, Pa.
 Shipowner's Dry Dock Co.....Chicago.
 Smith & Son, Abram.....Algonac, Mich.
 Willard, Chas. P. & Co. Winthrop Harbor, Ill.

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 Marine Mfg. & Supply Co.....New York.
 Upson-Walton Co.....Cleveland.

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 Kreer & Parsons.....Chicago.
 Rice & Lovejoy.....Buffalo.
 Steel, Nacey & Hynd.....Cleveland.
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Russell & Watson.....Buffalo.

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 Mallory Line.....New York.
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 Chase Machine Co.....Cleveland.
 Detroit Ship Building Co.....Detroit.
 Hyde Windlass Co.....Bath, Me.
 Marine Mfg. & Supply Co.....New York.
 Moulton Steering Engine Co.....New York.
 Sheriffs Mfg. Co.....Milwaukee.

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 Hynd, Alexander.....Cleveland.
 Lovejoy, H. O.....Buffalo.
 Matteson & Drake.....Philadelphia.
 Parker Bros. Co., Ltd.....Detroit.
 Nacey, James.....Cleveland.
 Rice, Henry.....Buffalo.
 Steel, Adam.....Cleveland.
 Wood, W. J.....Chicago.

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 Lunkenheimer Co.....Cincinnati, O.

TOOLS, METAL WORKING, FOR SHIP AND ENGINE WORKS.

Watson-Stillman Co.....New York.

TOOLS, WOOD WORKING.

Atlantic Works, Inc.....Philadelphia.

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 Chase Machine Co.....Cleveland.

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Donnelly Salvage & Wrecking Co.....Kingston, Ont.
 Great Lakes Towing Co.....Cleveland.

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 Sturtevant Co., B. F.....Hyde Park, Mass.

TRUCKS.

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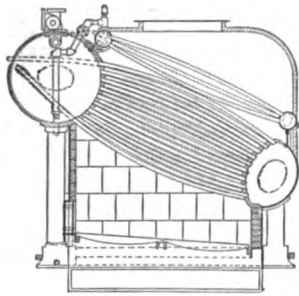
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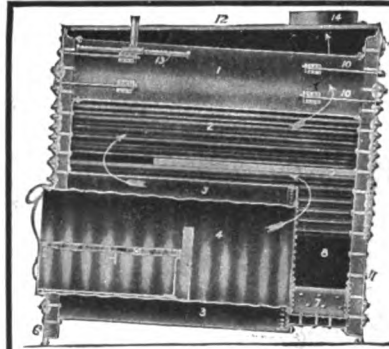
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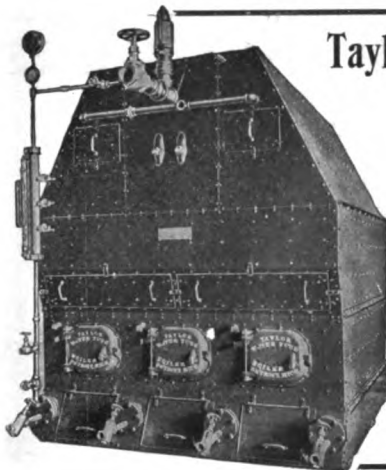
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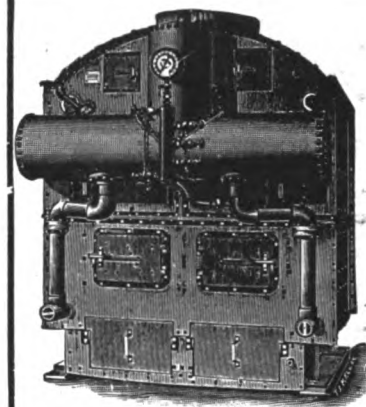


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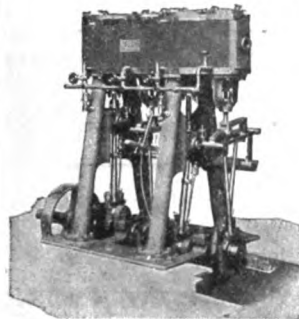
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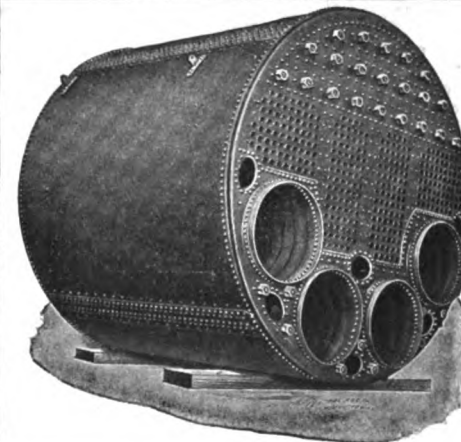
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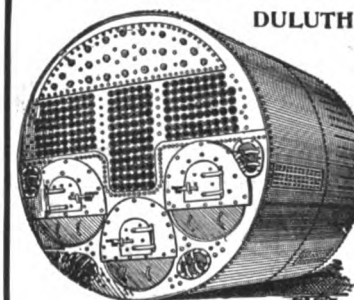
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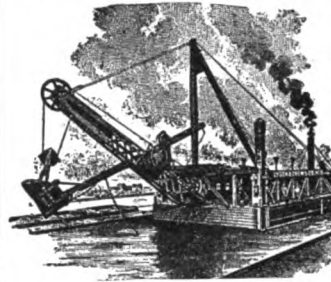
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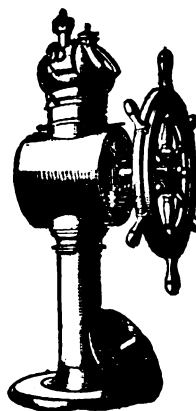
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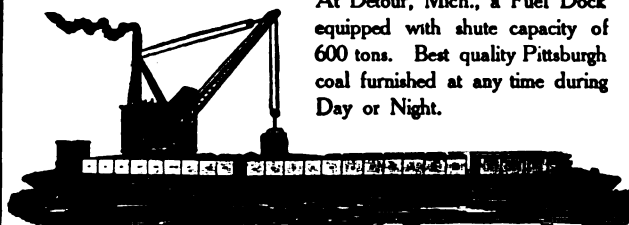
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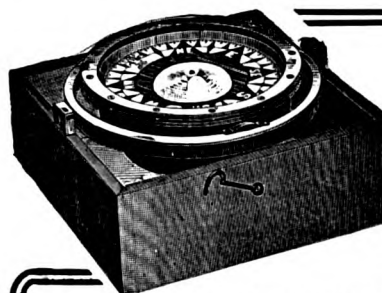
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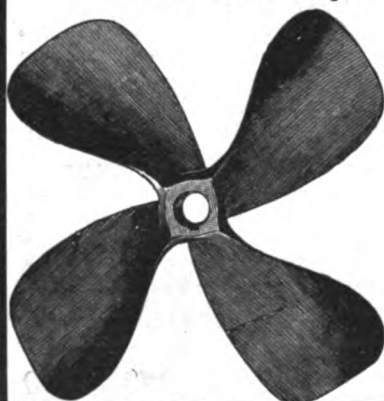
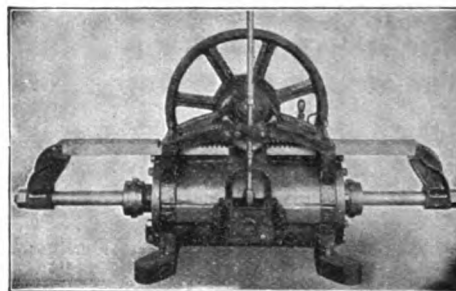
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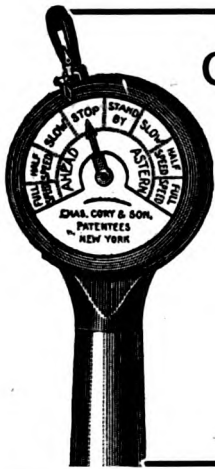
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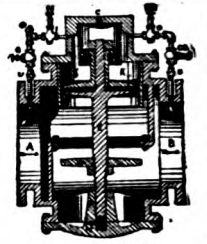
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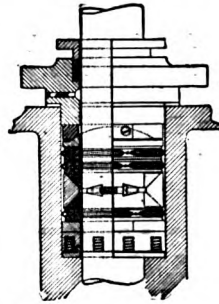


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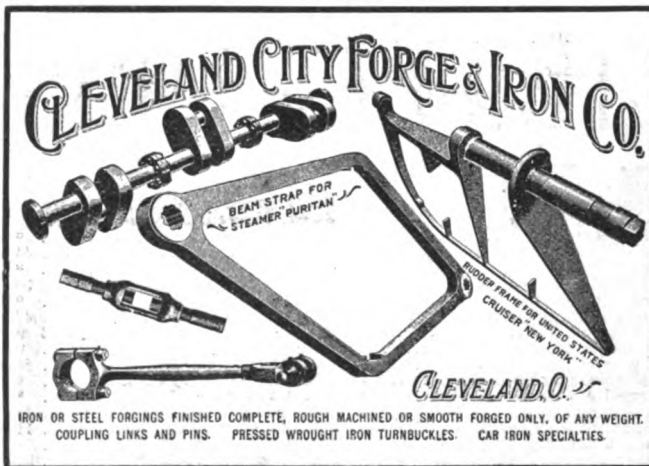
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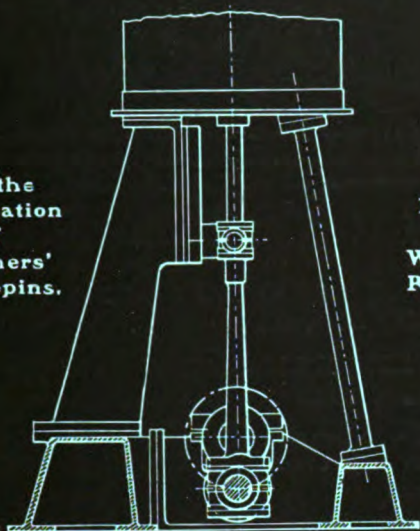
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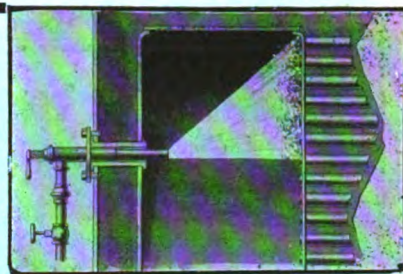
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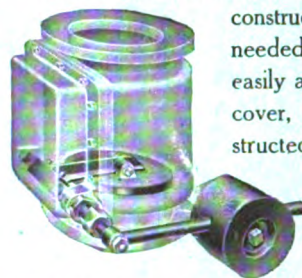
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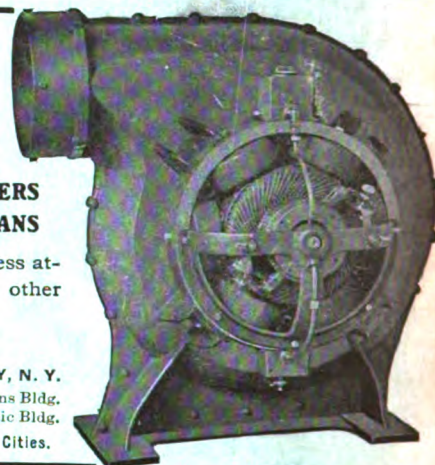
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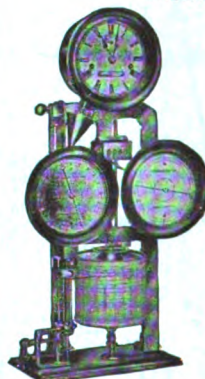
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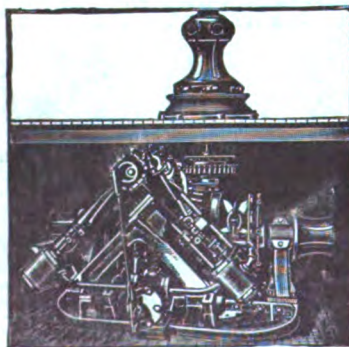


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